

العدد (41) يناير /كانون ثاني - أبريل /نيسان 2005

الملتقى الدولي السنوي الحادي عشر للأسمدة

1-3 فبراير/شباط 2005

ورشة عمل: نظم الإدارة البيئية

مملكة البحرين 18-20 أبريل/نيسان 2005

المؤتمر الفني الدولي السنوي الثامن عشر

5-7 يوليو/تموز 2005 - الدار البيضاء - المغرب

الأسمدة العربية

العدد (41) يناير (كانون ثاني) - أبريل (نيسان) 2005

- مجلة "الأسمدة العربية" تصدر عن الأمانة العامة للاتحاد العربي للأسمدة . الاتحاد العربي للأسمدة (هيئة عربية دولية) يضم الشركات المنتجة للأسمدة في الوطن العربي في 13 دولة عربية ويعمل الاتحاد تحت مظلة مجلس الوحدة الاقتصادية العربية/ جامعة الدول العربية – مقر الاتحاد: القاهرة.
- ترحب الأمانة العامة بالإتحاد بمساهمة السادة الباحثين والدارسين والجامعيين والكتاب المتخصصين فى مجالات صناعة الأسمدة وتجارتها واستخداماتها وذلك بنشر إنتاجهم الموثق علميًا مجانًا بشرط عدم نشره سابقاً ولا تلتزم الأمانة العامة برد الموضوعات التى لا يتم نشرها إلى أصحابها.
- تقدم المجلة فرصة نشر الأعلانات عن الشركات العاملة فى مجالات صناعة وتجارة الأسمدة والمستلزمات الزراعية. ويتم الاتفاق بشأنها مع إدارة المجلة.
-
- الأبحاث والمقالات التى تنشرها المجلة لا تمثل رأى الإتحاد العربى للأسمدة إلا إذا ذكر عكس ذلك صراحة.

رئيس التحرير
الدكتور شفيق الأشقر
الأمين العام

نائب رئيس التحرير
المهندس محمد فتحى السيد
الأمين العام المساعد

مدير التحرير
أ. مشيرة محرم

هيئة التحرير
م. محمد محمود على
أ. ياسرخيرى

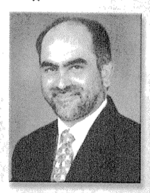
مجلة دورية متخصصة تصدر كل أربعة أشهر عن الأمانة العامة للإتحاد العربى للأسمدة

توجه المراسلات الى:
الإتحاد العربى للأسمدة
ص.ب. 8109 مدينة نصر
القاهرة 11371
جمهورية مصر العربية
هاتف: 4172347/9
فاكس: 4173721 - 4172350
Email: info@afa.com.eg
www.afa.com.eg

الإخراج الفنى
أ. أحمد صلاح الدين
التجهيزات الفنية وفصل الألوان
سكرين تكنولوجي
SCREENTECHNOLOGY
Tel : 7603396 - 7617863




الافتتاحية



المهندس عبد الرحمن جواهري
المدير العام
شركة الخليج لصناعة البتروكيماويات
مملكة البحرين

تعتبر صناعة الأسمدة من الصناعات المهمة المرتبطة ارتباطا وثيقا بالنمو السكاني العالمي والطلب على الغذاء. وتشير كل المؤشرات الإقتصادية أن هذه الصناعة ستواصل في نفس الاتجاه التي سجلته في عام 2004 على الأقل في المستقبل القريب، إذ تفيد تقارير الاتحاد العالمي للأسمدة (IFA) أن الطلب العالمي على الأسمدة سيرتفع من 145.5 مليون طن في عام 2004 إلى 149 مليون طن في عام 2005 أي بزيادة قدرها 2.5٪، كما أن أسعار الأسمدة ستحافظ على أسعارها المرتفعة نتيجة لانخفاض الطاقة الاحتياطية للمنتجين إذ سيواصل أغلب المنتجين بطاقات إنتاجية قريبة للطاقات الاستيعابية لمصانعهم.

هذه المؤشرات الاقتصادية الايجابية لصناعة الأسمدة يقابلها على الطرف الآخر بعض التحديات البيئية المرتبطة بهذه الصناعة الحيوية، والتي تختلف حسب بعدها الداخلي أو المحلي أو الاقليمي أو العالمي.

من التحديات العالمية، ما تشكله الاتفاقيات البيئية الدولية من تأثيرات على هذه الصناعة، من قبيل اتفاقية بازل لنقل المواد الخطرة عبر الحدود، واتفاقية مونتريال للمواد الضارة بطبقة الأوزون. آخر هذه الاتفاقيات الدولية هي اتفاقية كيوتو للتغيير المناخي والتي دخلت حيز التنفيذ في 16 فبراير 2005، خصوصا إذا انضمت دولنا لهذه الاتفاقية ذات الأبعاد المباشرة على الصناعة بشكل عام، والأسمدة بشكل خاص.

على المستوى المحلي، تواجه صناعة الأسمدة والبتروكيماويات تحديا محليا لترجمة التزامها نحو مجتمعها المحلي إلى برامج تنموية وشراكة مجتمعية. هذه البرامج يجب أن تدرس بعناية، وأن تخرج من الصورة النمطية نحو برامج أكثر ابداعا لتنمية عناصر المجتمع والبيئة المحيطة به، كبرامج التوعية البيئية وتطوير وحماية المنظومات البيئية المحيطة بالمصانع والتعاون والتنسيق بين الفعاليات المجتمعية والصناعية المجاورة، خصوصا في ما يتعلق بزيادة الوعي بأمور السلامة والبيئة عند التعامل مع المنتجات البتروكيماوية، أو لزيادة التنسيق والتعاون لمواجهة حالات الطوارئ التي قد تنشأ في أحد المرافق الصناعية المجاورة.

على المستوى الداخلي، تواجه إدارة هذه المصانع تحديا كبيرا بتطوير ثقافة متكاملة بأمور السلامة والصحة المهنية والبيئة، تكون إحدى مقوماتها الأنظمة الإدارية المتكاملة لهذه الجوانب. أحدث هذه الاتجاهات الإدارية يتمثل في تكامل أنظمة واجراءات السلامة والصحة المهنية والبيئة في نظام إداري شامل لإدارة الجودة الشاملة كإطار إداري عام لتكامل هذه الجوانب.

من مقومات هذه الثقافة أيضا مشاركة العنصر البشري في تخطيط وتنفيذ هذه البرامج، وهذا لا يتأتى إلا بزيادة الوعي بهذه الأمور، وتشجيع الموظفين على الانخراط في برامج تطوعية لخدمة السلامة والصحة المهنية والبيئة، سواء داخل محيط الشركات أو خارجها في نطاق مجتمعاتها المحلية المحيطة.

إننا بهذا السرد الموجز، نضع بعض العناوين العريضة للتحديات البيئية أمام المشاركين في ورشة العمل التي ينظمها الاتحاد العربي للأسمدة بالتنسيق مع شركة الخليج لصناعة البتروكيماويات في مملكة البحرين في الفترة من 18 - 20 أبريل 2005 تحت عنوان "نظم الإدارة البيئية". لكل المشاركين في هذه الورشة الهامة، تمنياتنا لهم بالنجاح والتوفيق في أعمالهم، تحقيقا لرسالة هذه الورشة من تبادل الخبرات والآراء والوقوف على التحديات والقضايا البيئية التي تواجهها صناعة الأسمدة في وطننا العربي ■



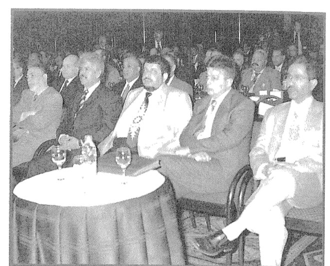
المنصة الرئيسية فى حفل الافتتاح من اليمين م. الموزى ، السيد الكافى ، معالى المهندس أحمد الليثى ، د. جويلى ود. الأشقر

الملتقى الدولى السنوى الحادى عشر للأسمدة

القاهرة:
1 - 3 فبراير (شباط) 2005

تحت رعاية معالى **الدكتور/ أحمد نظيف** رئيس مجلس الوزراء وبتشريف وحضور معالى **المهندس أحمد الليثى** وزير الزراعة واستصلاح الأراضى ممثلا معالى الدكتور رئيس مجلس الوزراء، والأستاذ **الدكتور أحمد جويلى** الأمين العام لمجلس الوحدة الإقتصادية العربية و**السيد/ الهذيلى الكافى**، رئيس مجلس إدارة الاتحاد، و**المهندس محمد عادل الموزى** ممثل صناعة الأسمدة فى مصر فى مجلس إدارة الاتحاد والأستاذ **الدكتور شفيق الأشقر** الأمين العام للاتحاد وبالتعاون مع الشركات المصرية أعضاء الاتحاد، عقد الاتحاد العربى للأسمدة الملتقى الدولى السنوى الحادى عشر للأسمدة فى فندق كونراد القاهرة خلال الفترة: 1-3 فبراير 2005.

حضر حفل الإفتتاح السادة أعضاء مجلس إدارة الإتحاد والرؤساء والمدراء العامون للشركات الأعضاء وعدد من كبار الضيوف وأكثر من 550 مشارك من المنظمات والهيئات العربية والدولية والشركات والمؤسسات ذات العلاقة بصناعة الأسمدة وخاماتها يمثلون 39 دولة منها 14 دولة عربية: الأردن، الامارات العربية، البحرين، الجزائر، تونس، سوريا، السعودية، قطر، الكويت، ليبيا، المغرب، مصر، لبنان، السودان. وحوالى 25 دولة أجنبية وهى: بلجيكا، فرنسا، ألمانيا، اليونان، سويسرا، بريطانيا، اسبانيا، النرويج، تركيا، النمسا، اذربيجان، جمهورية التشيك، موناكو، الولايات المتحدة الأمريكية، كندا، الصين، الهند، ماليزيا، باكستان، ايران، سريلانكا، جنوب افريقيا، زيمبابوى، الكونغو، استراليا.





السادة أعضاء مجلس إدارة الاتحاد والسادة رؤساء الشركات والمدراء العامون أثناء حفل الإفتتاح

معالى الدكتور رئيس مجلس الوزراء:

الحكومة حريصة على توفير الأسمدة بالكمية المناسبة والسعر الملائم للمزارعين

جاء فى كلمة الدكتور أحمد نظيف رئيس مجلس الوزراء التى ألقاها بالانابة معالى المهندس أحمد الليثى وزير الزراعة واستصلاح الأراضى فى افتتاح الملتقى بالقاهرة أن هناك مجالا للتوسع فى صناعة الأسمدة الكيماوية وتوفير جميع احتياجات الدول العربية من خلال صيغة تكاملية تخصصية مؤكدا ضرورة التعاون والتنسيق بين الدول العربية فى مجال انتاج الأسمدة الكيماوية وزيادة التجارة البينية تدعيما للكيان العربى فى عالم تحكمه الكيانات الإقتصادية الكبرى.

وطالب معالى الدكتور رئيس مجلس الوزراء بالخروج بتوصيات عملية قابلة للتطبيق لحل المشاكل التى تواجه صناعة وتجارة الأسمدة فى الوطن العربى والتى تعتبر أحد عناصر الانتاج المهمة لما تلعبه من دور رئيسى فى التنمية الزراعية ولما لها من دور فعال فى زيادة الانتاجية الزراعية خاصة فى ظل زيادة معدل التكثيف الزراعى فى معظم الدول العربية.

على الصعيد العربى يعتبر إنتاج الدول العربية من الأسمدة الكيماوية ذو أهمية جوهرية فى النهوض بالإنتاج الزراعى. فصناعة الأسمدة العربية تحتل مكانة متميزة على المستوى العالمى حيث تمثل صادراتها من الأسمدة بكافة أنواعها (نيتروجينية، فوسفاتية، بوتاسية) والمواد الخام الأولية حوالى من 6 - 75٪ من إجمالى التصدير العالمى.

وهذا يعكس أن الدول العربية تحقق فائضا تصديريا من الأسمدة



معالى المهندس أحمد الليثى

الكيماوية المختلفة، مع الأخذ فى الاعتبار وجود تباين كبير بين الدول العربية فيما تنتجه كل دولة من الأسمدة المختلفة. ولا شك أن هناك مجالا للتوسع فى صناعة الأسمدة الكيماوية وتوفير كافة احتياجات الدول العربية من خلال صيغة تكاملية تخصصية.

وأوضح معاليه أن السياسة الزراعية تولى اهتماما كبيرا بتوفير الأسمدة الكيماوية والعضوية باعتبارها من أهم المصادر التى تؤثر تأثيرا مباشرا على الانتاج من المحاصيل المختلفة وقال أنه تم تطبيق سياسة الاصلاح الإقتصادى وتحرير تجارة الأسمدة بحيث تم السماح لشركات القطاع الخاص والتعاونيات باستيراد الأسمدة كما سمح لشركات بتحديد حجم انتاجها وفقا لظروف العرض والطلب للسوق المحلى.

وأكد سيادته حرص الدولة على توفير هذه السلعة الاستراتيجية باصدار توجيهات لبنك التنمية والائتمان الزراعى بتسليم الأسمدة المنتجة محليا بسعر التكلفة مع استيراد حوالى مليون طن لسد العجز فى الأسمدة مع وقف تصديرها. وأشار إلى أن وزارة الزراعة وضعت استراتيجية جديدة للتنمية الزراعية فى مصر حتى2017 تستهدف تحقيق أقصى عائد ممكن من وحدة الأراضى والمياه وتوفير الأسمدة الكيماوية والعضوية بالكميات المناسبة وفى الأوقات المناسبة وبالسعر المناسب.

مجلس الوحدة الإقتصادية يشيد بالدور الرائد للاتحاد العربى للأسمدة

الدكتور الجويلى: أننا على ثقة أن قيادة هذا الاتحاد وأمانته بما لديها من فكر قومى وثاب قادرة على تحقيق الهدف الذى يطمح إليه كل عربى مخلص

أكد معالى **الدكتور أحمد جويلى** أمين عام مجلس الوحدة الإقتصادية العربية على أهمية دعم العمل العربى المشترك والاسراع بإقامة السوق العربية المشتركة باعتبارها الركن الأساسى فى تحقيق التنمية المنشودة والسبيل الأنجح للوصول إلى تحسين مستوى معيشة المواطن العربى ورفاهيته. كما دعا إلى تشجيع الاستثمارات البينية ورفع مستوى التبادل التجارى.

وأشار الدكتور جويلى فى كلمته إلى الانتهاء من مراحل التحرير الكامل للتبادل السلعى بين البلاد العربية من خلال البدء بتطبيق منطقة التجارة الحرة الكبرى التى تضم حتى الآن سبع عشرة دولة عربية وافقت على ازالة كافة القيود الجمركية وغير الجمركية على التبادل التجارى فيما بينها بدءا من مطلع هذا العام وهى تمثل أكبر انجاز اقتصادى حققه العرب وتعد الخطوة الواقعية والحقيقية الملموسة على طريق التكامل الإقتصادى العربى والوحدة الإقتصادية العربية. كما أعلن معاليه عن أمله أن يتم فى وقت قريب انجاز اتفاقية مماثلة لتحرير تجارة الخدمات بين البلاد العربية وقد تم انجاز خطوات لا بأس بها فى هذا المجال فى نطاق المجلس الإقتصادى بجامعة الدول العربية. وانطلاقا من دور مجلس الوحدة الإقتصادية العربية فى مسيرة العمل الإقتصادى العربى ودعمه لجهود المجلس الإقتصادى بجامعة الدول العربية قام مجلس الوحدة بوضع استراتيجية للتكامل الإقتصادى العربى للعقدين القادمين: 2000 - 2020 ووفقا لهذه الاستراتيجية المتكاملة واعتبارا من عام 2006 يعلن عن قيام اتحاد جمركى بين الدول العربية على مراحل تمتد حتى عام 2015 حيث يتم توحيد الرسوم الجمركية فى الدول التى ستقبل الانضمام إلى الاتحاد، كما أعلن معالى الأمين العام للمجلس أنه خلال الفترة 2015 - 2020 يتم اعلان قيام السوق العربية المشتركة التى تسمح بانتقال



الدكتور أحمد جويلى

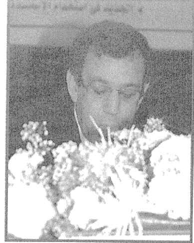
العمالة ورؤوس الأموال وتسمح بمزيد من تنسيق السياسات العربية مع بعضها البعض ومنها السياسة المالية والنقدية واقامة منطقة استثمارية عربية ومنطقة تكنولوجية عربية، منطقة مواطنة عربية.

وأشاد الدكتور جويلى بأهمية دور الاتحاد العربى للأسمدة واعتباره أحد أهم الاتحادات العربية النوعية العاملة فى نطاق مجلس الوحدة الاقتصادية العربية، وهو أحد الاتحادات الذى له قاعدة كبيرة للميزات النسبية موجودة فى المنطقة العربية من غاز وبترول ومعادن مثل الفوسفات والبوتاس وغيرها بالإضافة إلى الموقع الجغرافى المتميز فهناك فرص كبيرة لهذه الصناعة والملتقى خير دليل على أهمية صناعة الأسمدة العربية فهذا العام كان عدد الحضور كبيرا ومتميزا فى هذا الملتقى تجاوز المرات السابقة وذلك يدل على أن هذا الاتحاد له نشاط كبير متميز لفضل جهود الأمانة العامة للاتحاد بقيادة الأمين العام الدكتور شفيق الأشقر الذى يسعدنا العمل معه، لذلك أريد أن أحمل هذا الاتحاد مسئولية كبيرة وهو نقل صيغة الاتحاد إلى صيغة السوق المشتركة النوعية مثلما صرح السيد رئيس الاتحاد والسيد ممثل صناعة الأسمدة فى مصر والسيد الأمين العام حول التنسيق وخلافه وكسوق عربية للأسمدة يتم من خلالها تنسيق السياسات الإنتاجية والاستثمارية والسعرية والبحوث والتجارة الخارجية سواء البينية أو الدولية وأننا على ثقة أن قيادة هذا الاتحاد وأمانته بما لديها من فكر قومى وثاب قادرة على تحقيق هذا الهدف الذى يطمح إليه كل عربى مخلص وأننى أعتز بهذا الاتحاد وعلى ثقة أن قيادة هذا الاتحاد فى هذه المرحلة تقدر أن تقود الاتحادات الأخرى وتنجز عمل كبير.



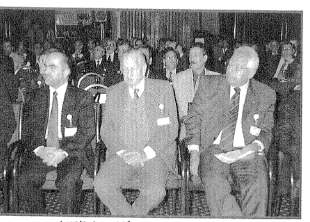
السادة كبار الضيوف أثناء حفل الافتتاح

السيد الكافى: الدفع باتجاه تشجيع التكامل الصناعى البينى بين الدول الأعضاء



قدم السيد الهذيلى الكافى رئيس مجلس إدارة الاتحاد العربى للأسمدة بالشكر والامتنان إلى معالى رئيس مجلس الوزراء لجمهورية مصر العربية لرعايته هذا الملتقى ومعالى وزير الزراعة واستصلاح الأراضى لتشريفه بحضور حفل الافتتاح وتوجه بالشكر إلى الحكومة المصرية للدعم المتواصل الذى كان له عظيم الأثر فى النمو المضطرد لحضور هذا الحدث الدولى الهام. وأكد السيد الكافى على المكانة المرموقة التى تحتلها صناعة الأسمدة العربية على الصعيد الدولى، حيث تمثل صادرات الشركات العربية من الأسمدة وخاماتها ما بين 20 - 70٪ من إجمالى صادرات العالم، وأستعرض السيد رئيس مجلس إدارة الاتحاد تبنى الاتحاد استراتيجية ورؤية تعتمد أساسا على ضرورة تنشيط وتفعيل دوره ارتكازا على المكانة التى تتبوأها صناعة الأسمدة العربية على الصعيدين العربى والدولى من خلال زيادة النشاط الإرشادى والتوعوى بحسن استخدام الأسمدة بكل أشكالها وعناصرها الكبرى والصغرى لما لها من مردود كبير عن زيادة الإنتاجية الزراعية وذلك من خلال تعزيز التعاون والتكامل مع المنظمات والهيئات والمؤسسات أقليمية والدولية ذات العلاقة بصناعة وتجارة واستعمال الأسمدة للمساهمة فى محاربة الفقر والمجاعة وتحقيق الأمن الغذائى العالمى، ومن خلال أيضا الاهتمام بالتنمية البشرية المستدامة من خلال عقد الملتقيات والمؤتمرات والورش المتخصصة وأيضا الاهتمام بالبيئة وحمايتها فى كل مراحل الاستخراج والإنتاج والتداول والاستخدام خدمة لمفهوم التنمية الصناعية المستدامة، بالإضافة إلى استمرارية عمل جائزة سنوية بقيمة 5000 دولار لأحسن بحث تطبيقى فى مجال حسن استخدام الأسمدة وحماية البيئة وتحسين مواصفات المنتج السمادى بغرض رفع كفاءته، والدفع باتجاه تشجيع التكامل الصناعى البينى بين الدول الأعضاء فى مجال هذه الصناعة وصولا إلى بناء قاعدة صناعية متكاملة لصناعة الأسمدة العربية ورفع مستوى التبادل التجارى لمدخلات ومنتجات الأسمدة والسعى لإنشاء المراكز المتخصصة لنقل وتوطين التكنولوجيا الصناعية ورفد أسواق العمل العربية بالكفاءات المدربة.

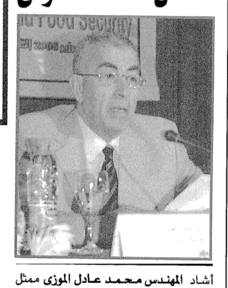
وقد توجه السيد رئيس مجلس إدارة الاتحاد بالشكر والامتنان للشركات المصرية أعضاء الاتحاد: الشركة القابضة للصناعات الكيماوية، شركة أبو قير للأسمدة والصناعات الكيماوية، شركة الدلتا للأسمدة والصناعات الكيماوية، شركة النصر للأسمدة والصناعات الكيماوية، الشركة المالية والصناعية المصرية، الشركة المصرية للأسمدة، شركة النصر للتعدين، شركة الصناعات الكيماوية المصرية (كيما)، والجمعية المصرية لتجار الأسمدة، وذلك على كرم الضيافة والدعم والتعاون البناء الذى ساهم بشكل فاعل فى انجاح فعاليات الاتحاد.



جانب من السادة الحضور أثناء حفل الافتتاح

ملف العدد

المهندس الموزى: تنامى المساحة المحصولية فى جمهورية مصر العربية عام 2005/2004 إلى 15.8 مليون فدان محصولى



أشاد المهندس محمد عادل الموزى ممثل صناعة الأسمدة المصرية فى مجلس إدارة الاتحاد فى كلمته فى حفل افتتاح الملتقى بصناعة الأسمدة العربية التى أصبحت تتبوأ مكانة متميزة على الصعيد الدولى وذلك بفضل الخبرات المكتسبة للعاملين فى هذه الصناعة بالإضافة إلى توافر احتياطى كبير من الخامات الأساسية اللازمة لهذه الصناعة مثل الغاز الطبيعى وصخر الفوسفات وخام البوتاس والكبريت، والموقع الجغرافى المتميز الذى يتوسط الأسواق العالمية المستهدفة. كما تحدث المهندس الموزى عن صناعة الأسمدة فى جمهورية مصر العربية موضحا أنها تشهد تطورا كبيرا فى المرحلة القادمة حتى تواكب التغييرات على المستويين المحلى

والدولى، من خلال المشاريع القومية الكبرى فى قطاع الزراعة حيث من المخطط أن تصل الزيادة فى الأراضى الجديدة حوالى 3.4 مليون فدان من خلال المشروع القومى فى توشكى وشمال سيناء والصحراء الغربية، وتبلغ المساحة المحصولية فى عام 2005/2004 حوالى 15.8 مليون فدان محصولى ومن المتوقع أن تصل إلى حوالى 19.00مليون فدان محصولى عام 2017/2016، مما يعنى زيادة الطلب على الأسمدة الأزوتية والمقدر له معدل نمو سنوى حوالى 3٪ ليصل إلى حوالى 12.0 مليون طن سماد نيتروجينى على أساس 15.5٪ أزوت، وأشار سيادته إلى أن سياسة الأسمدة فى جمهورية مصر العربية ترتكز على بعض الأسس منها تغطية الاحتياج المحلى من كافة الأسمدة النيتروجينية لتحقيق الاستقرار مع مقابلة النمو المتزايد فى حجم الطلب، وتحقيق أهداف تصديرية مخططة وثابتة حتى عام 2016 - 2017 من خلال فجوة السوق المستهدف. بالإضافة إلى تعظيم المردود إلى الإقتصاد القومى من خلال الاستفادة من مخزون الخامات الأساسية المتوافر لدى مصر خصوصا الاحتياطى الكبير من الغاز الطبيعى وصخر الفوسفات والاستفادة من الموقع الجغرافى المتميز الذى يتوسط الأسواق المستهدفة بجانب الخبرة والعمالة المدربة والموانئ المنتشرة على البحر الأحمر والبحر المتوسط.

الدكتور الأشقر يدعو إلى:

التوجه الجاد من أجل التنمية المستدامة وتضييق الفجوة الغذائية ومحاربة المجاعة فى العالم

رحب السيد الأمين العام للاتحاد **الدكتور شفيق الأشقر** بمعالى المهندس أحمد الليثى وزير الزراعة واستصلاح الأراضى نائبا عن راعى الملتقى معالى الدكتور أحمد نظيف رئيس مجلس الوزراء وبالسادة أصحاب المعالى والسعادة والحضور الكريم مشيرا إلى أن الرعاية الكريمة دلالة واضحة على حس عال بأهمية الأسمدة كمصدر أساسى فاعل فى الإنتاج الزراعى عموما والمحاصيل الغذائية بالدرجة الأولى. وأضاف فى كلمته أن انعقاد هذه التظاهرة الدولية متزامنا مع الذكرى الثلاثون لتأسيس الاتحاد العربى للأسمدة الذى أسس عام 1975 حيث نسجل بكل اعتزاز ما تم خلال السنوات الماضية من انجازات آملين أن يستمر دفع عجلة البناء والتطور لصناعة الأسمدة العربية وتنامى قدراتها وتنوع منتجاتها لكونها تشكل مع صناعة البترول العمود الفقرى فى مسيرة التنمية الإقتصادية والإجتماعية فى الوطن العربى. وأشاد الدكتور الأشقر بالدور الرائد البناء والجهود الدؤوبة من قبل مجلس الوحدة الإقتصادية العربية والدور المتميز للأمانة العامة ممثلة بالأمين العام معالى الدكتور أحمد جويلى مشيرا إلى بداية تفعيل اتفاقية التجارة العربية الحرة وانسياب البضائع والمنتجات بين أقطار الوطن العربى


الدكتور شفيق الأشقر

وأهميتها فى تحفيز التعاون العربى البينى.

وعن التوجهات التى يسعى الاتحاد العربى للأسمدة إلى ترجمتها تحدث السيد الأمين العام للاتحاد عن أهداف الاتحاد وسعيه إلى تحقيقها على أرض الواقع المعاش من حيث رفع مستوى التنسيق العربى المشترك فى مجال صناعة الأسمدة واستغلال خاماتها التى تنفرد المنطقة العربية بأكبر مخزون عالمى منها وعلى رأسها الغاز الطبيعى حوالى 30٪ من المخزون العالمى و70٪ من مخزون العالم من خامات الفوسفات وكلاهما يشكلان عصب صناعة الأسمدة الفوسفاتية والنيتروجينية، إضافة إلى تبادل الخبرات الفنية التراكمية وتكنولوجيا صناعة الأسمدة وتوظيفها فى خدمة الشركات العربية العاملة فى هذا المجال من خلال عقد الملتقيات والمؤتمرات الفنية المتخصصة وورش العمل التى يجرى توظيف مواردها طبقا لهذا التوجه، ومواكبة الخطط والبرامج التنموية الإقتصادية والإجتماعية والاستفادة من صناعة الأسمدة فى محاربة مشكلة البطالة من خلال التوسع بإقامة المصانع لكونها من الصناعات التى تتطلب كثافة عالية باستخدام الأيدى العاملة. ومن توجهات الاتحاد أيضا أضاف سيادته هو التوجه الجاد من أجل التنمية المستدامة وزيادة الإنتاج الزراعى والغذاء وتضييق الفجوة الغذائية ومحاربة المجاعة فى العالم بالتعاون مع البرنامج الطموح لمنظمة الأغذية والزراعة للأمم المتحدة (FAO) حيث أن عدد الجوعى بالعالم يقارب 850 مليون فرد، وأوضح الدكتور الأشقر أن الخطة تستهدف تقليل هذا العدد بمقدار النصف بحلول عام 2015 على الرغم أن المؤشرات التى تدل على تنامى هذا العدد نتيجة لبعض العوامل منها تراجع معدلات الأمطار عامة فى بعض الدول النامية على وجه التحديد وتدنى الاستغلال المبرمج للأراضى الزراعية والاعتداء على الأراضى الزراعية نتيجة الزحف السكانى والهجرة للمدينة على حساب الريف بالإضافة إلى الحروب والفوضى السياسية والكوارث الطبيعية كما حدث فى جنوب قارة آسيا.


السادة رؤساء الشركات وكبار الضيوف

خلال الجلسات الخمس للملتقى قدمت (22) ورقة عمل متخصصة:

اليوم الأول: الجلسة الأولى:

حلقة نقاشية حول **"التعاون والاستثمار والفرص العربية المتاحة فى مجال صناعة الأسمدة"**

شارك فى هذه الجلسة كل من السادة /

- **الدكتور شفيق الأشقر** الأمين العام للاتحاد
- **الدكتور أحمد جويلى** الأمين العام لمجلس الوحدة الإقتصادية العربية
- **المهندس محمد عادل الموزى** رئيس الشركة القابضة للصناعات الكيماوية (مصر)
- **الدكتور عبد الله ابراهيم** مدير إدارة المشروعات الشركة العربية للاستثمارات البترولية - ابيكورب (السعودية)
- **الدكتور جمال الدين بيومى** الأمين العام لاتحاد المستثمرين العرب
- **الدكتور فايز الحورانى** - رئيس قسم الدراسات بالشركة العربية للتعدين.

■ ■ **"الاقتصاد العربى بين الواقع وأهمية التحديات وصناعة الأسمدة العربية واتجاهات الاستثمار"** تحدث **الدكتور شفيق الأشقر** الأمين العام للاتحاد حول التنمية الإقتصادية التى تعتبر القاطرة التى تستمد منها الدول قوتها وأحد أهم الأسباب التى يرتبط بها استقرار ورفاهية الشعوب. وأرجع انخفاض النمو الإقتصادى إلى عدد من العوامل يأتى فى مقدمتها ما يعرف بفجوة التمويل "فجوة الاستثمار" وهى الفرق بين الادخار المحلى والاستثمارات المطلوبة لتعزيز النمو الاقتصادى. وتطرق الدكتور الأشقر فى مداخلته بالحديث عن مناخ الاستثمار والذى يعرف على أنه مجمل الأوضاع والاتجاهات الإقتصادية والسياسية والتشريعية والإدارية التى تؤثر فى جذب وتنشيط الاستثمارات موضحا أهم ملامح الاستثمار بشكل عام التى تتمثل فى نمو الناتج المحلى الإجمالى الحقيقى ، الانفتاح على العالم الخارجى، التغير فى سعر الصرف الاسمى على العملة، وارتفاع سعر الفائدة العالمى. وتناول سيادته بالشرح للسياسات المحفزة لجذب الاستثمار الخارجى منها دعم الاستقرار الإقتصادى من خلال ثبات واستقرار السياسات الإقتصادية وتلافى تقلبات سعر الصرف مع توافر سلة من



منصة الحلقة النقاشية «التعاون والاستثمار والفرص العربية المتاحة»

الحوافز الإيجابية كالحوافز الضريبية ورفع كفاءة البنية الأساسية ...

واستعرض السيد الأمين العام للاتحاد فى ورقته الاقتصاد العربى فى العقد الأخير من القرن العشرين الذى اتسم بسمات أهمها :

- الاعتماد على القطاعات الاستخراجية للثروات الطبيعية وفى مقدمتها النفط والخامات التعدينية
- تدنى مساهمة الإنتاج الزراعى فى الناتج العام للسلع الغذائية
- ضعف التجارة العربية البينية

موضحا تدنى حصة العالم العربى من اجمالى الاستثمارات العالمية خلال عامى 2003 - 2004 حيث بلغت حوالى 1.54٪ وحوالى 5٪ من إجمالى حصة الدول النامية على الرغم من مجمل الإجراءات المتخذة لتحسين المناخ الإستثمارى تمثلت فى ادخال العديد من التحسينات على القوانين الاستثمارية وعقد اتفاقيات ثنائية عربية لتجنب الازدواج الضريبى وتحسين الإجراءات وخطوات التسجيل والاستثمار.

وشدد الدكتور الأشقر عبر مداخلته على أهمية عودة الأموال العربية المهاجرة حيث يقدر حجم استثمارات رؤوس الأموال العربية فى الدول غير العربية حوالى 800 مليار دولار حسب تقديرات لجنة الأمم المتحدة الإقتصادية والإجتماعية لغربى آسيا (اسكوا).

استكمل السيد الأمين العام مداخلته حول صناعة الأسمدة العربية وخاماتها والمكانة المتميزة التى تحتلها على الصعيد الدولى حيث يمتلك العالم العربى حوالى 70٪ من الاحتياطى العالمى من خام الفوسفات وحوالى 33٪ من احتياطى الغاز الطبيعى فى العالم بالإضافة إلى الكبريت والبوتاس وهذه هى الخامات الأساسية لإنتاج مختلف الأسمدة. ثم استعرض نسب الإنتاج والصادرات العربية حاليا من الأسمدة المختلفة وخاماتها مشيرا إلى أن الإنتاج العربى يمثل حوالى من 5٪ إلى 25٪ من الإنتاج العالمى بالنسبة للأسمدة المختلفة ويمثل حوالى من 4٪ إلى 33٪ للخامات الأساسية. كما تمثل الصادرات العربية حوالى من 6٪ إلى 74٪ من الخامات الأساسية خصوصا خام الكبريت وصخر الفوسفات وتمثل نسبة ما بين 18٪ و71٪ من حجم الصادرات العالمية من أنواع الأسمدة المختلفة وخاماتها .ثم تناول بالشرح أهمية صناعة الأسمدة فى الدول العربية على المستوى الصناعى والمستوى الزراعى. واستعرض الدكتور الأشقر فى ختام مداخلته المشروعات المستقبلية لصناعة الأسمدة والطاقات الإنتاجية للمشروعات الجديدة المتوقعة فى المنطقة العربيةوهى كما يلى:

- الأمونيا حوالى 6.4 مليون طن
- اليوريا حوالى 7.8 مليون طن
- خامات الفوسفات حوالى 5 مليون طن
- حامض الفوسفوريك حوالى مليون طن خامس أكسيد الفوسفور
- السوبرفوسفات الثلاثى حوالى 0.5 مليون طن
- فوسفات الأمونيوم والأسمدة المركبة حوالى 2.5 مليون طن
- البوتاس حوالى 0.5 مليون طن.

■■ قدم **الدكتور عبد الله ابراهيم** مدير إدارة المشروعات الشركة العربية للاستثمارات البترولية - ابيكورب (السعودية) مداخلة حول "صناعة الأسمدة العربية: التغيرات والاستجابة"، بدأها بالحديث عن التغيرات الهيكلية التى تشهدها صناعة الأمونيا / اليوريا فى المنطقة العربية وضرورة الاستجابة لهذه التغيرات موضحا دور شركة أبيكورب فى دعم وتطوير قطاع البتروكيماويات فى المنطقة العربية.

تناول لدكتور عبد الله ابراهيم أهم العوامل المؤدية للتغيرات الهيكلية قبل تطوير حقول الغاز الطبيعى المنخفضة التكلفة فى المنطقة العربية وفتح أسواق جديدة أمام صادرات المنطقة العربية من اليوريا كذلك سياسات الانفتاح فى المنطقة العربية على الرأسمال الأجنبى مع تعزيز دور القطاع الخاص فى التنمية.

ثم استعرض الوضع القائم حاليا لهيكل ملكية رؤوس أموال شركات الأمونيا / يوريا فى المنطقة العربية:

- 7 شركات ملكية رؤوس أموالها بالكامل تعود لشركات حكومية
- و5 شركات معظم ملكية رؤوس أموالها يعود لشركات حكومية
- وشركتان يمتلك القطاع الخاص أغلبية نسبية فى رأسيمالهما وهما شركة سافكو والشركة المصرية للأسمدة.

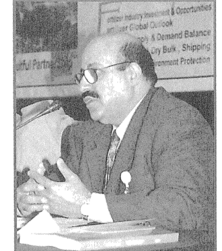
أما على صعيد الشركات المؤسسة حديثا أو قيد التأسيس فلا تزال هيمنة القطاع العام قائمة:

- 5 شركات يمتلك القطاع العام معظم رؤوس أموالها منها 4 شركات مصرية وشركة عمانية
- وشركتان يمتلك القطاع الخاص معظم رأسيمالهما وهما شركة مصرية وأخرى عمانية.

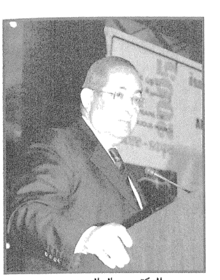
وتناول مشاركة أبيكورب خلال الفترة 1994 - 2004بقيامها بسبع عمليات إقراض لصالح مشروعات للأمونيا / يوريا تم انجازها أو يجرى تشييدها حاليا فى المنطقة العربية مشيرا إلى أدوات أبيكورب وخدماتها التمويلية وذلك عن طريق:

- تمويل الشركات القائمة
- تمويل المشروعات (الجديدة والتوسعات)
- تقديم الاستشارات التمويلية
- تمويل التجارة
- المساهمة المباشرة فى رأس المال.

ويوضح الجدول الآتى مشروعات الأمونيا / يوريا التى شاركت أبيكورب بتمويلها خلال الفترة: 1994 - 2004:



الدكتور عبد الله ابراهيم


الدكتور جمال الدين بيومى

■■ قدم **الدكتور جمال الدين بيومى** الأمين العام لاتحاد المستثمرين العرب فى الجلسة النقاشية للملتقى مداخلة حول "مقترحات إصلاحية للعمل العربى المشترك" استهلها بالحديث حول العالم العربى والمتغيرات الراهنة حيث تتسارع المتغيرات نحو عالمية العلاقات الدولية ومفاهيم الأمن المتبادل والانفتاح على المعارف وتحرير التجارة وصارت هذه المتغيرات تنشط فى دائرتين:

الدائرة العالمية ويسودها تراجع الحدود السياسية بين التكتلات والأخذ بالحرية السياسية والنظم الديمقراطية بمختلف أشكالها والانفتاح على الاقتصاد العالمى ووظفت مؤسسات التمويل الدولية (الصندوق والبنك) ومنظمة التجارة العالمية كأدوات للعمل الإقتصادى العالمى متعدد الأطراف.

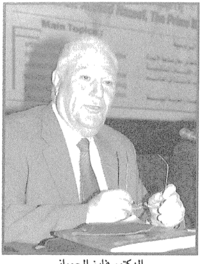
الدائرة الإقليمية وفيها يتزايد سعى الدول لبلوغ نوع ودرجة من العلاقات الإقليمية لا توفره منظمة التجارة العالمية.

وقد وفرت منظمة التجارة العالمية الحد الأدنى من تطوير علاقات التجارة الدولية فى اطار شرط الدولة الأولى بالرعاية بين أعضائها لكنها أخفقت على مدى اجتماعاتها الثلاثة الأخيرة فى تخطى ما وصلت إليه نتائج جولة أورجواى عام 1994. وأشار سيادته إلى أنه لم يعد أمام الدول النامية، والدول العربية خاصة، لتحقيق مصالحها الذاتية إلا أن تعمق علاقاتها البينية فى إطار تكتلها الإقليمى. ومن هنا برزت أهمية البعد الإقليمى للعلاقات العربية. ثم تناول فى مداخلته أهمية العمل الإقتصادى العربى المشترك لارتباطه بأهداف التنمية ومصالح الأمن المشترك وما يتطلبه العمل الإقتصادى العربى المشترك من تخطى مرحلة مناطق التجارة الحرة إلى بناء نظام اقتصادى عربى فعال على أساس نسق وأنظمة أعمق من التجارة السلعية وتشمل قطاعات أخرى للتعاون مثل الخدمات، والاستثمار، والمصارف، وتكنولوجيا المعلومات والنقل والاتصالات والسياحة والتعمير بجانب التكامل الصناعى والزراعة وعلاج الفجوة الغذائية والبحث العلمى فضلا عن حق الانتقال للمواطن العربى فى أرجاء وطنه الأكبر بسهولة فيما يمثل مكسبا إضافيا.

وأشاد الدكتور بيومى بإلغاء الرسوم الجمركية تماما بين الدول العربية أعضاء منطقة التجارة الحرة العربية من أول يناير 2005 طبقا للجدول الزمنى لقرار القمة العربية فى بيروت وأعتبرها خطوة غير مسبوقة فى العمل العربى يمكن أن تحقق فوائد أكبر إذا عمقت علاقات دول المنطقة لتشمل قطاعات أبعد وأعمق بجانب دعم سياسات الإصلاح وتحرير التجارة المكملة للاتفاقية. وأرجع السيد الأمين العام لاتحاد المستثمرين العرب قصور التجارة البينية إلى صغر الصناعة العربية وعدم تنوعها من جهة والسبب الأهم على حد قوله هو سبب هيكلى يرجع إلى أن الدول العربية لا تنتج أغلب احتياجاتها بالقدر

الكافى فتلجأ للاستيراد من خارج العالم العربى فأهم ثلاثة بنود تستوردها الدول العربية وهى الآلات والمعدات - معدات ووسائل النقل - الغذاء النباتى والحيوانى والسمكى والدهون والزيوت. والفجوة فى الفارق بين الصادرات والواردات من هذه المنتجات تمثل أكثر من 45٪ من الواردات العربية. وتطرق الدكتور بيومى إلى الحديث حول التأثير المحدود للتوسع الأفقى فى التجارة السلعية والحاجة لرؤية شاملة لنظام عربى متكامل يتجاوز مرحلة عقد اتفاقيات ذات أثر أفقى محدود. وأكد سيادته على الحاجة لرعاية مباشرة من القمة العربية للشأن الإقتصادى حيث يمثل الملف الإقتصادى والإجتماعى الخلفية والقاعدة لصلابة الكيان العربى والدرع الإقتصادى للأمن الجماعى.

■■ فى مداخلته التى قدمها **الدكتور فايز الحورانى** رئيس قسم الدراسات بالشركة العربية للتعدين تناول أهمية صناعة الأسمدة العربية التى ازدادت بوتيرة تصاعدية خلال الحقبة المنصرمة فى اطار مؤشرات واضحة لعظمة هيكل الإنتاج وحاجات الأسواق والتطور المشهود على صعيد التكنولوجيا والاستخدامات وتعاظم الحاجات لاستهلاك هذه المواد الضرورية مما جعل صناعة الأسمدة من أكبر الصناعات وقد نجحت هذه الصناعة وصمدت أمام التقلبات الدورية التى واكبت حالة الأسواق العالمية. وجاءت وتيرة ارتفاع أسعار الأسمدة النيتروجينية والفوسفاتية والبوتاسية لتؤكد مصداقية التوقعات وأهمية التوسع المطرد على الطاقات القائمة وتنفيذ المشروعات الجديدة فى



الدكتور فايز الحورانى

هذه المنطقة على وجه التحديد لعوامل واضحة تضيف ميزات تنافسية مقارنة بمناطق العالم الأخرى. ولمصلحة جميع أطراف المعادلة: المستثمرون والمنتجون والمستهلكون حتى أصبح التحالف بين رأس المال والتكنولوجيا مجال اعتزاز الجميع وأصبح العمل العربى المشترك فى هذه المجالات واجبا يتجاوز الحدود الجغرافية والانتماءات السكانية المحلية نحو العالم أجمع.

ثم انتقل الدكتور حورانى فى مداخلته بالحديث عن الشركة العربية للتعدين حيث أسست بقرار من مجلس الوحدة الإقتصادية العربية فى 1975 لتدعيم العلاقات العربية على أساس من التعاون المشترك لاستثمار الثروات المعدنية استثمارا اقتصاديا متنوعا فى مشروعات إنتاجية وإنمائية ذات جدوى.

ثم استعرض استراتيجية الاستثمار فى قطاع الأسمدة للشركة العربية للتعدين على وجه التخصيص مبادرة الشركة فى بداية عهدها إلى المساهمةفى تنفيذ المشاريع المشتركة على صعيد الأسمدة وخاماتها بحيث أصبحت نسبة المساهمة فى هذا القطاع تتجاوز 43.4٪ من إجمالى مساهمات الشركة. تعتبر مساهمة الشركة العربية للتعدين فى شركة البوتاس العربية منذ عام 1977 بما يزيد عن 51 مليون دولار عاملا رئيسيا فى تنفيذ مشروعات هذه الشركة العملاقة وبتزايد دورها بعد النصف الثانى من التسعينات بالتعاون المشترك مع شركة الفوسفات الأردنية وهى الجناح التاريخى لتطور صناعة الأسمدة فى الأردن وفى المنطقة. وقد كانت مساهمة الشركة العربية للتعدين أساسا فى شركة الأسمدة الأردنية بما يزيد عن 15 مليون دولار وبعد اندماجها مع شركة الفوسفات عام 1985 أصبحت مساهمة الشركة العربية فى شركة الفوسفات الأردنية مباشرة.

وانتباها للأهمية الاستثنائية لصناعة الأسمدة قامت الشركة بالمساهمة الشركة فى تأسيس شركة المنصورة للأسمدة وهى شركة مصرية يتم تأسيسها بموجب قانون المناطق الحرة الخاصة ويهدف المشروع إلى إنتاج نحو 400 ألف طن سنويا من الأمونيا وحوالى 635 ألف طن من اليوريا المحببة ويتوزع الاكتتاب فى رأس مال هذه الشركة المحدد بحوالى 106 مليون يورو بين شركات عربية وخليجية (Mid Gul) وشركات مصرية وأمريكية وشركة ألمانية مزودة للتكنولوجيا، وسيكون تنفيذ هذا المشروع خطوة إيجابية واضحة فى مجال صناعة الأسمدة حيث ستزيد التكلفة الاستثمارية الإجمالية عن 280 مليون يورو.



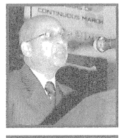
السادة أعضاء الوفود أثناء جلسات الملتقى

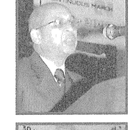
اليوم الثانى:

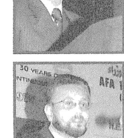
الجلسة الثانية: تحت عنوان: الوضعية الحالية والآفاق المستقبلية للسوق العالمية للأسمدة











ترأس الجلسة : **المهندس محمد بدرخان** – المدير العام شركة مناجم الفوسفات الأردنية (الأردن)

المهندس يوسف فخرو مدير التسويق – شركة الخليج لصناعة البتروكيماويات (البحرين)

خلال هذه الجلسة تم تقديم خمس ورقات عمل:

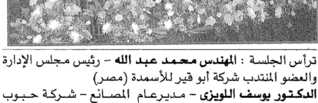
- الورقة الأولى: **"دور الأسمدة الكيماوية فى محاربة الجوع"** قدمها **الدكتور غسان حمد الله** منظمة الأمم المتحدة للأغذية والزراعة (المكتب الإقليمى فى القاهرة)
- الورقة الثانية: **التكنولوجيا الحيوية وأثرها على صناعة الأسمدة** قدمها **Mr. Luc Maene** المدير العام – الاتحاد الدولى لصناعة الأسمدة (فرنسا)
- الورقة الثالثة: **"صناعة الأسمدة الأوربية بعد عام من التوسع"** قدمها: **Mr. Helmuth Aldinger** المدير العام – الاتحاد الأوربى لصناعة الأسمدة (بلجيكا).
- الورقة الرابعة: **""الوضع الحالى لصناعة الأسمدة الهندية والآفاق المستقبلية"** قدمها **Mr. R.C. Gupta** المدير العام – الاتحاد الهندى للأسمدة (الهند)
- الورقة الخامسة: **""الأسمدة والأمن الغذائى"** قدمها **Dr. Amit Roy** الرئيس والمدير التنفيذى – المركز الدولى لتطوير الأسمدة (الولايات المتحدة الأمريكية)

- **من الجدير بالذكر أن ملخصات النصوص لجميع الاوراق توجد على الموقع الاليكترونى للاتحاد**

www.afa.com.eg

الجلسة الثالثة: تحت عنوان "ميزان العرض والطلب فى أسواق الأسمدة"





ترأس الجلسة : **المهندس محمد عبد الله** – رئيس مجلس الإدارة والعضو المنتدب شركة أبو قير للأسمدة (مصر)

الدكتور يوسف اللويزى – مديرعام المصانع – شركة حبوب الفسفاط (تونس). تضمنت هذه الجلسة ستة أوراق عمل:





- الورقة الأولى: **"صناعة الأسمدة فى استراليا والنظرة المستقبلية"** قدمها **Mr. Peter McEwen** رئيس الاتحاد الأسترالى للأسمدة (استراليا)
- الورقة الثانية: **"التوقعات قصيرة المدى لميزان العرض والطلب للأسمدة فى العالم"** قدمها **Mr. Patrick Heffer** السكرتير التنفيذى للجنة الزراعية – الاتحاد الدولى لصناعة الأسمدة (فرنسا)

اليوم الثالث:

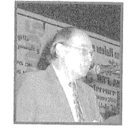
الجلسة الرابعة: تحت عنوان: "تجارة وشحن وتخزين الأسمدة وخاماتها"

ترأس الجلسة :

المهندس مساعد العوهلي - نائب الرئيس للأسمدة - الشركة السعودية للصناعات الأساسية - سابك (السعودية)

المهندس يوسف الكواري - مدير التسويق - شركة قطر للأسمدة الكيماوية - قافكو (قطر)

خلال هذه الجلسة تم تقديم خمسة ورقات عمل:



■ الورقة الأولى: **"أوجه النقل البحري بصورة عامة"**
قدمها: **Mr. Jarle Hammer**
الرئيس الإقتصادي -أكاديمية Fearnlyes AS (النرويج)



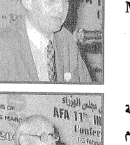
■ الورقة الثانية: **"عالم البوتاس"**
قدمها: **Mr. Brent Heimann**
المدير العام -
شركة البوتاس العربية (الأردن)

■ الورقة الثالثة: **"الوضع الحالي للصين والنظرة المستقبلية للشحن لعام 2005"** قدمها: **Mr. Robin Thomas**
مدير تطوير الأعمال - شركة SSY (بريطانيا)

■ الورقة الرابعة: **"توقعات تجارة الأمونيا: 2005 - 2008"**
قدمها **السيد علي السندي**
مدير مبيعات الأمونيا - شركة قطر لصناعة الأسمدة الكيماوية (قطر)



■ الورقة الخامسة: **"أضواء على نظام النقل البحري الحديث"**
قدمها **الدكتور عبد الحليم بسيوني**
عميد مركز البحوث والاستشارات لقطاع النقل البحري (مصر)

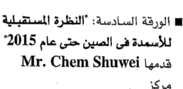


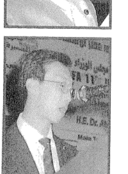


■ الورقة الثالثة: **"ميزان العرض والطلب للكبريت: حتى عام 2013"**
قدمها **Mr. Mike Kitto**
المؤسسة البريطانية
- British Sulphur (بريطانيا)

■ الورقة الرابعة: **"النظرة المستقبلية للأسمدة فى باكستان حتى عام 2015"**
قدمها **Dr. Nizar Ahmad**
رئيس المركز الوطنى لتطوير الأسمدة (باكستان)

■ الورقة الخامسة: **"النظرة المستقبلية للأسمدة فى أسبانيا حتى عام 2015"**
قدمتها **Mrs. Isabel Garcia**
مدير التخطيط الاستراتيجى - الاتحاد الأسبانى لصناعة الأسمدة (أسبانيا)





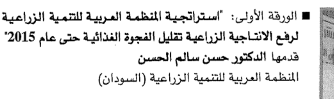
■ الورقة السادسة: **"النظرة المستقبلية للأسمدة فى الصين حتى عام 2015"**
قدمها **Mr. Chem Shuwei**
مركز
Beijing Orient Agri. Business
(الصين)



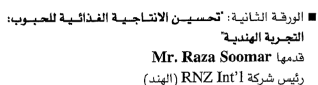
الجلسة الخامسة: "الجديد فى استخدام الأسمدة وحماية البيئة"

ترأس الجلسة : **الدكتور سالم اللوزى** – المدير العام – المنظمة العربية للتنمية الزراعية (السودان) **الدكتور غسان حمد الله** – المدير الإقليمى للترية – المكتب الإقليمى لمنظمة الأغذية والزراعة للأمم المتحدة (مصر)

خلال هذه الجلسة تم تقديم ستة ورقات عمل:



■ الورقة الأولى: **"استراتجية المنظمة العربية للتنمية الزراعية لرفع الانتاجية الزراعية تقليل الفجوة الغذائية حتى عام 2015"**
قدمها **الدكتور حسن سالم الحسن**
المنظمة العربية للتنمية الزراعية (السودان)



■ الورقة الثانية: **"تحسين الانتاجية الغذائية للحبوب: التجربة الهندية"**
قدمها **Mr. Raza Soomar**
رئيس شركة RNZ Int'l (الهند)

■ الورقة الثالثة: **"كفاءة استخدام الأسمدة والرى بالمياه (التقنية النووية والتقليدية)"**
قدمها **الدكتور منير روسان**
عميد كلية الموارد الطبيعية والبيئة – الجامعة الهاشمية (الأردن)

■ الورقة الرابعة: **"استراتجية الأسمدة النيتروجينية فى مصر**
قدمها **المهندس مصباح عاشور**
المدير العام دائرة الاستثمار
شركة الدلتا للصناعات الكيماوية (مصر)

■ الورقة الخامسة: **"التسميد الأمثل فى الترية الرملية باستخدام التقنية الحديثة ونجاحها على الصعيد التجارى"**
قدمها **Mr. Adriaan Boersma**
مدير الإنتاج – OMNIA Group (جنوب أفريقيا)

■ الورقة السادسة: **"مساهمة المعهد العالمى للفوسفات: استخدام الأسمدة من أجل الزراعة المستدامة"**
قدمها **Dr. G. Dev**
المستشار بالمعهد العالمى للفوسفات (المغرب).

الجلسة الختامية للملتقى:

خلال الأيام الثلاث لأعمال الملتقى الدولى السنوى الحادى عشر للأسمدة تم خلالها تقديم اثنان وعشرين ورقة عمل متميزة المحتوىباجماع المشاركين.

__أهم المواضيع والقضايا التى عرضت خلال الملتقى:__

- حلقة نقاشية حول التعاون والتكامل والفرص العربية المتاحة فى مجال صناعة الأسمدة وخاماتها.
- الموقف الحالى والمستقبلى لصناعة الأسمدة فى المنطقة العربية.
- أهمية تعاظم دور الأسمدة فى تقليل الفجوة الغذائية حاضرا ومستقبلا.
- الاهتمام بالاستخدام الأمثل للأسمدة لتعظيم الإنتاجية الزراعية وحماية البيئة.
- إلقاء الضوء على التكنولوجيا الحيوية وأقرها المتوقع على صناعة الأسمدة مستقبلا.
- أثر توسع الاتحاد الأوروبى على صناعة الأسمدة.
- أثر السياسات الزراعية للاتحاد الأوروبى على كميات الأسمدة المستخدمة فى دول الاتحاد
- أثر انضمام الدول إلى اتفاقية تحرير التجارة العالمية على صناعة الأسمدة النيتروجينية
- الاتجاهات المستقبلية لتصنيع الأسمدة فى الهند فى ضوء سياسة تحرير الأسعار
- إلقاء الضوء على مشروعات المركز الدولى لتطوير الأسمدة بأمريكا فى مجال دعم استخدام الأسمدة لتحسين الإنتاجية الزراعية فى بعض الدول: أفغانستان – مالاوى – نيجيريا.
- الموقف الحالى والمستقبلى للطلب على الأسمدةفى كل من: استراليا، اسبانيا، باكستان، الصين مع إلقاء الضوء على المشاريع المستقبلية لصناعة الأسمدة فى هذه الدول.
- مستقبل العرض والطلب على الكبريت فى ضوء بعض الاعتبارات الفنية مثل إعادة حقن الغاز والجدير بالذكر أن هناك ثبات فى أسعار الكبريت نظرا لتوافق الطلب والمعروض فى السوق العالمى له وسيظل هذا التوازن حتى عام 2010 – 2012 ولكن هناك شواهد عالية فى العجز فى كمية



المنصة الرئيسية للجلسة الختامية من اليمين م. عبد الرحمن جواهرى ، السيد الكافى ود. فلوح

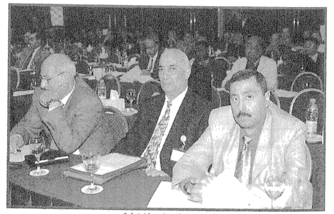
الكبريت المعروض بحلول عام 2013.

- الاتجاهات العالمية لعمليات النقل والشحن وأثر ذلك على أسعار الشحن.
- آفاق عمليات الشحن فى الصين.
- خبرة شركة قافكو فى شحن ونقل الأمونيا والقاء الضوء على أهم وأحدث مفاهيم النقل والشحن البحرى.
- طرق الإستخدام الأمثل للأسمدة فى الأراضى الرملية.
- برامج استخدام الأسمدة فى الهند وأثر ذلك على زيادة انتاجية المحاصيل وسد الفجوة الغذائية.

هذه بعض النقاط الرئيسية التى تمت مناقشتها والاتفاق بشأنها خلال الحلقة النقاشية بهدف العمل على تحسين المناخ الاستثمارى لمواجهة الآفاق الحالية والمستقبلية فى صناعة الأسمدة العربية حيث لا يزال المجال واسعا لتعزيز الاستثمار فى المنطقة نظرا لتوافر الخامات الأساسية لصناعة الأسمدة بالإضافة إلى توافر العناصر البشرية المدربة، ذلك وان المنطقة شهدت عام 2005 تحرير الأسواق ورفع التعرفة الجمركية على المنتجات:

- تمثل الأسمدة العربية جزءا مهما من تجارة الأسمدة العالمية وأصبحت لها قدما ثابتة فى تلك الأسواق مما نتج عنه قيام مشاريع عديدة مشتركة مع دول العالم.
- ان منتجى الأسمدة العربية ملتزمون بالقواعد الإقليمية والدولية الخاصة وبالمواصفات والمقاييس لمنتجاتها، وأصبحت لها سمعة دولية والمتوقع المحافظة على نوعية هذه الأسمدة لأجل الاستخدام السليم للأسمدة والحفاظ على البيئة.
- دور الأسمدة الأساسى والحيوى فى زيادة الإنتاجية الزراعية ومواجهة مشكلة الجوع فى العالم لأجل تعزيز الأمن الغذائى.
- أهمية تضافر جهود المنتجين والمنظمات الدولية والإقليمية للقيام بحملات توعية وارشادات حول الأساليب السليمة لاستخدام الأسمدة حفاظا على البيئة.
- دعوة المنتجين والمنظمات الإقليمية والدولية لاستمرار جهود التعاون بهدف دعم أجهزة البحث والتطوير والإرشاد للوصول إلى الاستخدام الأمثل للأسمدة الكيماوية بأفضل الممارسات الزراعية الممكنة.
- التعريف بفرص الاستثمار فى المنطقة العربية.
- توفير سلة من الحوافز لجذب الاستثمارات العربية والأجنبية للمنطقة العربية.
- الالتزام بقواعد المنشأ حماية للصناعة العربية.
- تفعيل نظم وآليات فض المنازعات الخاصة بالتجارة والاستثمار.
- تبنى أنماط جديدة ومتعددة الأهداف للتعاون بين الدول العربية تتوافق مع قدرات هذه الدول.
- استكمال تنسيق السياسات الإقتصادية والتجارية التى تنمى العلاقات البينية العربية.
- تطوير وتنمية القطاع المالى وتوفير الدعم الفنى والتسويق اللازم للصناعة العربية.
- دعوة الاتحادات العربية النوعية للتنسيق واقامة أسواق نوعية عربية مشتركة تتناسب مع مجالات عملها.
- الاهتمام بإعداد وتنمية الكوادر البشرية العربية للتوافق مع متغيرات سوق العمل.
- توفير قواعد بيانات حديثة فى المنطقة العربية.
- الاهتمام بتحرير تجارة الخدمات بين الدول العربية.

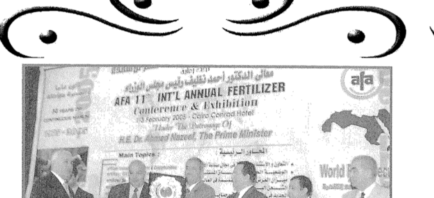
لقي الملتقى الدولى السنوى الحادى عشر للأسمدة اهتماما إعلاميا كبيرا تحدثت عنه وسائل الإعلام والصحف المحلية والمجلات المحلية والدولية المتخصصة ذات العلاقة بصناعة الأسمدة التى باشرت تتبع جلساته وفعالياته يوما بيوم. هذا وتسجل الأمانة العامة شكرها العميق لكافة السادة الذين تقدموا وشاركوا بأوراق العمل جنباً إلى جنب مع الشكر والتقدير لأعضاء الوفود المشاركة.



جانب من السادة المشاركين



من اليمين Dr. A. Roy ،Mr. Luc Maene، م. سيف الغفلي



الدكتور منير محمد روسان يتسلم جائزة الاتحاد لعام 2004

تهنئة من الاتحاد العربي للأسمدة للفائز بجائزة الاتحاد العربي للأسمدة لعام 2004



م.سعاد خضر تتسلم الشهادة نيابة عن الدكتور السيد النجار



الدكتورحسيب الفقى يتسلم شهادة التقدير

تمشيا مع سياسة مجلس إدارة الاتحاد العربى للأسمدة بتشجيع وتكريم الباحثين فى مجال صناعة الأسمدة واستخداماتها معنويا وماديا والتعريف بجهودهم لابراز أعمالهم العلمية بما يساهم فى توفير مناخ محفز للمنافسة العلمية والإبداعية دعما وتطويرا لصناعة الأسمدة واستخداماتها فى الوطن العربى. قرر مجلس إدارة الاتحاد منح جائزة سنوية لهذه الغاية للعاملين فى مجال هذه الصناعة وتطبيقاتها حيث لا تقتصر الأبحاث المتنافسة على العاملين بالشركات الأعضاء للاتحاد ولكن يمكن للجامعات ومراكز البحوث والهيئات الأكاديمية البحثية بالدول الأعضاء بالاتحاد الاشتراك أيضا من خلال أى من الشركات الأعضاء.

تتركز موضوعات البحث حول: زيادة الإنتاجية الزراعية باستخدام الأسمدة المعدنية - تحسين جودة الأسمدة ورفع كفاءتها السمادية - الحفاظ على البيئة والسلامة - تحسين الإنتاج فى صناعة الأسمدة وخاماتها - ترشيد استخدام الموارد المائية والحفاظ على الطاقة - رفع الطاقة الإنتاجية وتخفيض تكاليف الإنتاج - الترويج لاستخدام الأسمدة المعدنية وزيادة المبيعات.

كما تستند لجنة الجائزة فى اختيارها للبحث الفائز إلى المعايير والأسس التالية:

- أصالة البحث
- منهجية البحث وملخص النتائج
- الجدوى الفنية والإقتصادية للبحث
- عائد البحث على صناعة الأسمدة واستخداماتها
- تقييم انتاج الباحث لأخر خمس سنوات

خلال حفل افتتاح الملتقى الدولى السنوى الحادى عشر للأسمدة قام معالى **المهندس أحمد الليثى** وزير الزراعة واستصلاح الأراضى بمنح درع الاتحاد وشهادة تقدير وعرفان جائزة نقدية بقيمة 5000 دولار أمريكى لصاحب البحث الفائز بجائزة الاتحاد لعام 2004 المقدم من :

الأستاذ **الدكتور منير جميل محمد روسان**
تحت عنوان **"رفع الكفاءة السمادية وحماية البيئة"**

الأستاذ الدكتور منير جميل محمد روسان يشغل منصب أستاذ بقسم إدارة الأراضى والعميد بالوكالة كلية الموارد الطبيعية والبيئة الجامعة الهاشمية بالزرقاء بالمملكة الأردنية الهاشمية، وهو حاصل على درجة الماجستير (كيميائية التربة) من جامعة واشنطن فى عام 1986، وحصل على درجة الدكتوراه (خصوبة التربة وتغذية النبات) من جامعة واشنطن فى عام 1993.

كما يشغل الدكتور منير روسان منصب المنسق الإقليمى لغرب آسيا وشمال أفريقيا لمعهد البوتاس العالمى (IPI) كما أن له العديد من البحوث فى تطبيقات واستخدام الأسمدة البوتاسية للعديد من البلدان منها ايران ومصر...

من الجدير بالذكر أن جائزة الاتحاد عن عام 2003 منحت للدكتور محمد رياض هميسة المستشار بمعهد بحوث الأراضى والمياه والبيئة بوزارة الزراعة (مصر).

يتشرف الاتحاد العربى للأسمدة بتهنئة **الأستاذ الدكتور منير جميل محمد روسان** وذلك لحصوله على جائزة الاتحاد لعام 2004 كما يتوجه الاتحاد العربى للأسمدة بالتهنئة إلى **الأستاذ الدكتور السيد النجار** - شركة الدلتا للأسمدة والصناعات الكيماوية (مصر) **والأستاذ الدكتورحسيب الفقى** - شركة أبو قير للأسمدة (مصر) وذلك لفوزهما بشهادات تقدير لتميز بحثاهما.







مجلس إدارة الإتحاد الإجتماع الواحد والسبعون

القاهرة 2005/2/1

عقد مجلس ادارة الاتحاد الإجتماع الواحد والسبعون بالقاهرة يوم الثلاثاء الموافق 1 فبراير (شباط) 2005 برئاسة **السيد الهذيلى الكافى** رئيس مجلس إدارة الإتحاد - الرئيس المدير العام لشركة حبوب الفسفاط (تونس) **والسيد محمد الهادى بيرم** نائب رئيس مجلس إدارة الاتحاد - عضو مجلس المديرين بالمؤسسة العمومية الإقتصادية- أسمدال (الجزائر)، **والدكتور/ شفيق الأشقر** الأمين العام/ أمين سر المجلس.

وجه المجلس جزيل الشكر لحكومة جمهورية مصر العربية ولمعالى رئيس مجلس الوزراء على رعاية فعاليات الملتقى الدولى الحادى عشر للأسمدة وإلى معالى المهندس أحمد الليثى وزير الزراعة واستصلاح الأراضى لتفضله حضور حفل الإفتتاح وإلى الشركات المصرية، وكلف المجلس الأمانة العامة بارسال خطاب شكر للحكومة المصرية باسم مجلس إدارة الاتحاد.

وجه المجلس الشكر والتقدير للدكتور مصطفى السيد لما قدمه طيلة عضويته بالاتحاد وتقديم التهنئة له لتوليه منصب رئيس مجلس إدارة شركة نفط البحرين كما وجه الشكر للسيد المهندس على حمدى بمناسبة انتهاء خدمته، ورحب المجلس بالسيد المهندس عبد الرحمن جواهرى المدير العام لشركة الخليج لصناعة البتروكيماويات عضوا فى مجلس إدارة الاتحاد.

- وافق المجلس على التسميات الجديدة لعضوية مجلس إدارة الاتحاد:
  - المهندس عبد الرحمن جواهرى عضوا فى مجلس إدارة الاتحاد ممثلا لمملكة البحرين
  - المهندس محمد عبد الله العانى من الشركة العامة لصناعة الأسمدة ممثلا عن الجمهورية العراقية
- وافق على انضمام عدد من الشركات إلى عضوية الاتحاد.
- وافق المجلس على منح عضوية شرف للسادة أعضاء مجلس الإدارة السابقون
- وافق المجلس على منح عضو خبرة للسادة الفائزين بجائزة الاتحاد عن عامى 2003 - 2004
- ناقش المجلس مشروع الميزانية الختامية للسنة المالية المنتهية فى 31 ديسمبر (كانون الأول) 2004 وتمت الموافقة على الميزانية الختامية وأوصى برفعها للجمعية العمومية للتصديق عليها.
- وعدد من المواضيع الأخرى

حضر هذا الإجتماع كل من السادة :

- **المهندس/ محمد عادل الموزى**
  الشركة القابضة للصناعات الكيماوية، مصر
- **السيد/ محمد عبد الرحمن التركيت**
  شركة صناعة الكيماويات البترولية، الكويت
- **المهندس/ سيف أحمد الغفلى**
  شركة صناعات الأسمدة بالرويس، الإمارات العربية
- **السيد/ محمد نجيب بنشقرون**
  مجموعة المكتب الشريف للفوسفاط، المغرب
- **المهندس/ أحمد الهادى عون**
  شركة سرت لإنتاج وتصنيع النفط والغاز، ليبيا
- **المهندس/عبد الرحمن جواهرى**
  شركة الخليج لصناعة البتروكيماويات، البحرين
- **المهندس/ مساعد بن سليمان العوهلى**
  شركة سابك، السعودية
- **المهندس/ محمد سليم بدرخان**
  شركة مناجم الفوسفات الأردنية، الأردن
- **الدكتور/ نزار فلوح**
  المؤسسة العامة للصناعات الكيميائية، سوريا
- **المهندس/ يوسف الكوارى**
  شركة قطر للأسمدة الكيماوية، قطر

وحضور:

- **المهندس/ محمد فتحى السيد**
  الأمين العام المساعد

وحضر جانبا من الإجتماع:

- **المهندس/ يوسف فخرو**
  رئيس اللجنة الإقتصادية للاتحاد
- **السيد/محمد الشابورى**
  رئيس قسم الشئون المالية للاتحاد





إجتماع اللجنة الإقتصادية الثانى والثلاثون

القاهرة 2005/1/31

عقدت اللجنة الإقتصادية للاتحاد الإجتماع الثانى والثلاثون بمدينة القاهرة يوم الإثنين الموافق 31 يناير (كانون ثانى) 2005 برئاسة **المهندس/ يوسف فخرو** . مدير التسويق والتخطيط بشركة الخليج لصناعة البتروكيماويات (البحرين) رئيس اللجنة الاقتصادية للاتحاد **والسيد/ جعفر سالم** نائب المدير العام لشئون التسويق بشركة البوتاس العربية (الأردن) نائب رئيس اللجنة، **والدكتور/ شفيق الأشقر** الأمين العام للاتحاد.

تم فى هذا الإجتماع مناقشة عدد من الموضوعات أهمها:

- تحديث المعلومات حول المشاريع المستقبلية فى أقطار السادة الأعضاء والتى كان أهمها مشروع قافكو V فى دولة قطر بطاقة قدرها 3000 طن أمونيا / يوريا يوميا.
- الملتقى الدولى الحادى عشر للأسمدة - القاهرة 2005 .
- التقرير الإحصائى السنوى لعام 2004.

وحضر الاجتماع السادة :

- **السيد/ محمد عبد الرحمن التركيت**
شركة صناعة الكيماويات البترولية - الكويت
- **الدكتور/ نزار فلوح**
المؤسسة العامة للصناعات الكيميائية - سوريا
- **السيد/ محمد نجيب بنشقرون**
مجموعة المكتب الشريف للفوسفاط - المغرب
- **السيد محمد الهادى بيرم**
أسمدال - الجزائر.
- **السيد/ يوسف الكوارى**
شركة قطر للأسمدة الكيماوية - قطر
- **السيد/ أحمد غالب المهيرى**
شركة فرتيل - الإمارات العربية المتحدة.
- **السيد/ توفيق المؤدب**
المجمع الكيميائى التونسى - تونس
- **السيد/محمد عباس**
المجمع الكيميائى التونسى - تونس
- **المهندس/ ناصر أبو عليم**
شركة مناجم الفوسفات الأردنية - الأردن
- **المهندس/ جمال أبو سالم**
الشركة اليابانية الأردنية، - الأردن
- **المهندس/ يسرى الخياط**
شركة أبو قير للأسمدة - مصر
- **المهندسة/ سعاد خضر**
شركة الدلتا للأسمدة - مصر
- **السيد/ فهد الفواز**
شركة سابك - السعودية
- **السيد/ سعد بن محمد الدليلة**
شركة سابك - السعودية
- **السيد/ ابراهيم أحمد بو ربيعة**
شركة سرت - ليبيا

كما حضر الاجتماع من الأمانة العامة للاتحاد السادة /

- **المهندس/ محمد فتحى السيد**
الأمين العام المساعد
- **السيد/ ياسر خيرى**
رئيس قسم الشئون الإقتصادية والزراعية.

إجتــمـــــاع اللجنـــة الفنيـــة الثـــانى والثـــلاثون

القاهرة 31/1/2005





عقدت اللجنة الفنية للاتحاد إجتماعها الثانى والثلاثون بمدينة القاهرة يوم الإثنين الموافق **31** يناير (كانون ثانى) **2005** برئاسة **المهندس على ماهر غنيم** رئيس اللجنة الفنية رئيس مجلس الادارة والعضو المنتدب لشركة الدلتا للأسمدة والصناعات الكيماوية (مصر)، **المهندس فيصل دودين** نائب رئيس اللجنة الفنية ، المدير التنفيذى للتسويق بشركة مناجم الفوسفات الأردنية (الأردن) **والدكتور/ شفيق الأشقر** الأمين العام .

تم فى هذا الإجتماع مناقشة عدد من الموضوعات منها:

- عقد ورشة عمل حول نظم الإدارة البيئية "Environmental Management Systems" والتى ستعقد بمملكة البحرين: 18-20/4/2005.
- المؤتمر الفنى الدولى الثامن عشر الذى سيعقد بالدار البيضاء - المغرب خلال الفترة: 5 - 7 يوليو (تموز) 2005.
- إجتماع اللجنة الفنية للاتحاد الدولى لصناعة الأسمدة (IFA)، الاسكندرية: 11 - 13/4/2005.
- ورشة العمل التدريبية حول "تكنولوجيا صناعة الأسمدة النيتروجينية" بالتعاون مابين الاتحاد والمركز الدولى لتطوير الأسمدة (IFDC) والاتحاد الدولى لصناعة الأسمدة (IFA).
- مذكرة حول العروض الخاصة بدراسة المقارنة بين الشركات الأعضاء (Benchmarking)
- قاعدة البيانات الفنية فى مركز المعلومات بالأمانة العامة
- دليل الرصد الذاتى فى صناعة الأسمدة الكيماوية

حضر الاجتماع السادة :

- **المهندس يسرى الخياط**
  شركة أبوقير للأسمدة، مصر
- **المهندس جمال عميرة**
  شركة البوتاس العربية، الأردن
- **المهندس يوسف عبد الله يوسف**
  شركة الخليج لصناعة البتروكيماويات، البحرين
- **الدكتور يوسف اللويزى**
  شركة حبوب الفسفاط، تونس
- **السيد ميلود لوحيشى**
  أسمدال ، الجزائر.
- **المهندس سعد بن محمد الدليلة**
  الشركة السعودية للصناعات الأساسية، السعودية
- **الدكتور نزار فلوح**
  المؤسسة العامة للصناعات الكيماوية، سوريا
- **المهندس خليفة جاسم الخليفى**
  شركة قطر للأسمدة الكيماوية، قطر
- **المهندس عبد الله أحمد السويلم**
  شركة صناعة الكيماويات البترولية، الكويت
- **المهندس خليفة يحمد خليفة**
  شركة سرت لإنتاج وتصنيع النفط والغاز - ليبيا
- **المهندس يوسف زاهيدى**
  مجموعة المكتب الشريف للفوسفاط - المغرب
- **الكيميائى عبد العظيم العباسى**
  الشركة المالية والصناعية المصرية، مصر

من الامانة العامة للاتحاد السادة:

- **المهندس/ محمد فتحى السيد**
  الأمين العام المساعد
- **المهندس/ محمد محمود على**
  رئيس قسم الدراسات والبحوث الفنية

الإجتماع الثالث لمدراء التسويق

القاهرة 2005/1/31



عقد الاتحاد العربى للأسمدة بالقاهرة الاجتماع الثالث لمدراء التسويق يوم الإثنين الموافق: 31 يناير (كانون ثانى) 2005 برئاسة السيد **الدكتور/ شفيق الأشقر** الأمين العام للإتحاد والسيد **يوسف الكوارى** مدير التسويق بشركة قطر للأسمدة الكيماوية – قافكو.

تم فى هذا الإجتماع مناقشة عدد من الموضوعات:

- حركة تجارة الأسمدة خلال عام 2004 والمؤشرات لعام 2005.
- السوق العربية المشتركة وتطبيق العمل بها اعتبارا من 2005/1/1.
- التجارة البينية ومناقشة وسائل تطويرها وأهم المعوقات التى تواجهها (عوائق جمركية – عوائق اجراءات الاستيراد – تطوير الموانئ).
- الملتقى الدولى السنوى الحادى عشر للأسمدة: 1-3 فبراير (شباط) 2005.

حضر الاجتماع السادة :

- **المهندس يوسف فخرو**
  شركة الخليج لصناعة البتروكيماويات، البحرين
- **المهندس جعفر سالم**
  شركة البوتاس العربية، الأردن
- **المهندس ناصر أبو عليم**
  شركة مناجم الفوسفات الأردنية، الأردن
- **المهندس/ فيصل دودين**
  شركة مناجم الفوسفات الأردنية، الأردن
- **المهندس/ جمال أبو سالم**
  الشركة اليابانية الأردنية، الأردن
- **السيد/ أحمد غالب المهيرى**
  شركة فرتيل، الإمارات العربية
- **السيد/ توفيق المؤدب**
  المجمع الكيميائى التونسى، تونس
- **السيد محمد عباس**
  المجمع الكيميائى التونسى، تونس
- **الدكتور يوسف اللويزى**
  شركة حبوب الفسفاط، تونس
- **السيد أحمد المرتضى الباهى**
  شركة حبوب الفسفاط، تونس
- **السيد معزوز بن جدو**
  أسمدال ، الجزائر.
- **السيد صلاح بهبهانى**
  شركة صناعة الكيماويات البترولية، الكويت
- **المهندس جمال عبد الحميد**
  شركة صناعة الكيماويات البترولية، الكويت
- **السيد رشيد المطيرى**
  شركة سابك، السعودية
- **السيد فهد الفواز**
  شركة سابك، السعودية
- **السيد غازى على الغازى**
  شركة سابك، السعودية
- **المهندس يسرى الخياط**
  شركة أبو قير للأسمدة، مصر
- **السيد أحمد شوقى**
  شركة الدلتا للأسمدة، مصر
- **السيد عادل عطية**
  الشركة المصرية للأسمدة، مصر
- **المهندسة سمية أبو الحمد**
  شركة النصر للأسمدة، مصر
- **المهندس محسن عبد الحميد**
  شركة النصر للأسمدة، مصر
- **المهندس أحمد عبد الستار**
  شركة النصر للتعدين، مصر
- **المهندس على تاج الدين سليمان**
  الشركة المالية والصناعية المصرية، مصر
- **السيد مصطفى شريف الجبلى**
  شركة بولى سيرف، مصر
- **السيد خالد الحاتى**
  شركة بولى سيرف، مصر
- **السيد محمد عبد العزيز**
  شركة أبو زعبل للأسمدة، مصر
- **السيد عادل الجمال**
  شركة أبو زعبل للأسمدة، مصر

كما حضر الاجتماع من الامانة العامة للاتحاد السادة:

- **المهندس/ محمد فتحى السيد**
  الأمين العام المساعد
- **السيد/ ياسر خيرى**
  رئيس قسم الشئون الإقتصادية والزراعية.



قام الاتحاد العربى للأسمدة، عرفانا وتقديرا للجهود الداعمة لمسيرة الاتحاد وفعالياته بتكريم وشكر:

(1) ■ الدكتور أحمد جويلى أمين عام مجلس الوحدة الإقتصادية العربية

(2) ■ المهندس محمد عادل الموزى الرئيس والعضو المنتدب - الشركة القابضة للصناعات الكيماوية

(3) ■ الدكتور جمال بيومى أمين عام اتحاد المستثمرين العرب

(4) ■ الدكتور مصطفى السيد رئيس شركة نفط البحرين

(5) ■ المهندس على حمدى الأمين العام السابق / المستشار للاتحاد العربى للأسمدة

(6) ■ الكيميائى يحيي قطب الرئيس والعضو المنتدب-الشركة المالية والصناعية المصرية

(7) ■ المهندس على ماهر غنيم الرئيس والعضو المنتدب-شركة الدلتا للأسمدة

(8) ■ الكيميائى محمد عبدالله الرئيس والعضو المنتدب-شركة أبو قير للأسمدة

(9) ■ المهندس مصطفى كامل المدير العام-الشركة المصرية للأسمدة

(10) ■ الكيميائى محمد على حسن هلال الرئيس والعضو المنتدب-شركة النصر للأسمدة

(11) ■ الدكتور شريف الجبلى الرئيس - الجمعية المصرية للتجار وموزعى الأسمدة

■ كما تم تقديم الشكر والتقدير للمهندس عبدالمالك فرح الرئيس والعضو المنتدب- لشركة النصر للتعدين.

















معرض الاتحاد العربى للأسمدة بالتعاون مع مؤسسة BRITISH SULPHUR

فندق كونراد القاهرة : 1 - 3 فبراير (شباط) 2005



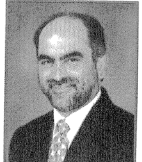


صاحب الملتقى الدولي السنوي الحادي عشر للأسمدة وعلى مدى الأيام الثلاث معرضا نظمه الاتحاد العربي للأسمدة بالتعاون مع مؤسسة "BRITISH SULPHUR PUBLISHING".

وقد تفضل معالي الدكتور أحمد جويلي الأمين العام لمجلس الوحدة الإقتصادية العربية ومعالي الدكتور محمد ابراهيم البريثن المدير العام المساعد والممثل الإقليمي للشرق الأدنى لمنظمة الأغذية والزراعة للأمم المتحدة (FAO) بافتتاح المعرض وأشاد سيادتهما بالمعروضات من الشركات العربية والأجنبية.

شارك في المعرض عدد من الشركات العربية والأجنبية، من بين هذه الشركات: شركة البوتاس العربية (الأردن)، شركة الخليج لصناعة البتروكيماويات (البحرين)، شركة أبو قير للأسمدة (مصر)، شركة الدلتا للأسمدة (مصر)، الشركة المصرية للأسمدة (مصر)، شركة الاسكندرية للأسمدة (مصر)، شركة ابرامار للملاحة (مصر)، شركة أكوا ترست لمعالجة المياه (مصر)، شركة أميسال (مصر)، شركة UHDE (ألمانيا)، شركة Yargus (الولايات المتحدة الأمريكية).

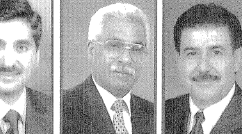
تهاني



المهندس عبد الرحمن جواهرى عضوا فى مجلس إدارة الاتحاد

تم تسمية السيد **المهندس عبد الرحمن جواهرى** عضوا بمجلس إدارة الاتحاد ممثلا لمملكة البحرين. الذي تم تعيينه مديرا عاما لشركة الخليج لصناعة البتروكيماويات خلفا للدكتور مصطفى السيد الذى عين رئيسا لشركة نفط البحرين.

تغتنم أسرة الأمانة العامة للاتحاد هذه المناسبة الطيبة بتقديم باقة من التهانى وأطيب الأمانى للسيد جواهري وترجو له دوام النجاح والتوفيق فى منصبه الجديد وللشركة المزيد من الازدهار والتطور.



م. أحمد نورالدين — م. يوسف عبد الله — م.فاضل الأنصارى

تعيينات جديدة بشركة الخليج لصناعة البتروكيماويات

تتقدم الأمانة العامة للاتحاد بأطيب التهانى والأمانى بدوام النجاح والتوفيق **للمهندس يوسف عبد الله يوسف** الذى عين مديرا لعمليات المصانع، و**المهندس أحمد عبد الله نورالدين** الذى عين مديرا للخدمات الفنية و**المهندس فاضل مال الله الأنصارى** مديرا للصيانة.

أعضاء جدد

يرحب الإتحاد العربى للأسمدة بالشركات التى انضمت حديثا إلى أسرة الإتحاد وهى:

■ **الشركة العامة للفوسفات والمناجم (سوريا)**
عضو عامل
المدير العام: المهندس فرحان المحسن
أهم نشاط الشركة إنتاج واستثمار خام الفوسفات وتسويقه

■ **شركة حلوان للأسمدة (مصر)**
عضو مؤازر (لحين التشغيل)
رئيس مجلس الإدارة والعضو المنتدب:
الكيميائى محمد عادل الدنف
الشركة تحت الانشاء لإنتاج أمونيا / يوريا

■ **شركة الرضا للأسمدة والصناعات الكيماوية (مصر)**
عضو مؤازر
عضو مجلس الإدارة والعضو المنتدب:
السيد رضا عبد المحسن السقا
نشاط الشركة : استيراد وتصدير وتصنيع وبيع الأسمدة والمخصبات الزراعية والمبيدات والتقاوى / التوكيلات التجارية / تجارة الحاصلات الزراعية.

■ **شركة سوكيما للتجارة والاستشارات (مصر)**
عضو مؤازر
رئيس مجلس الإدارة: السيد شريف الأشرم
نشاط الشركة: الاستشارات والدراسات الهندسية والكيماويات.

■ **الشركة الأردنية الحديثة (الأردن)**
عضو مؤازر
رئيس مجلس الإدارة: الدكتور مهندس فؤاد كاظم الزبيدى
أهم نشاط الشركة استيراد المواد الأولية للأسمدة بمختلف أنواعها ولكافة الصناعات.

■ **الشركة الأردنية للمشارطة البحرية (الأردن)**
عضو مؤازر
المدير العام: السيد مراد أحمد دخقان
شاط الشركة: وسطاء نقل بحرى / استئجار بواخر

■ **شركة المجموعة الأردنية للوكالات البحرية (الأردن)**
عضو مؤازر
المدير العام: السيد أمجد جبرى
نشاط الشركة: وكالات بحرية.

■ **مؤسسة الزيتونة الخضراء للتجارة والنقل (الأردن)**
عضو مؤازر
المدير العام: السيد سامى على أبو طويلة
نشاط الشركة: تجارة عامة / الأسمدة وخاماتها بالإضافة إلى النقل

■ **المركز التجارى السودانى بالقاهرة (السودان)**
عضو مؤازر
المدير العام: السيد حيدر أبشر محمد الطاهر
نشاط المركز: العمل التجارى فى مجال الأسمدة الزراعية، النقل البحرى

■ **شركة Tradex India Corporation (الهند)**
عضو مؤازر
المدير العام: Mr. Ajay Gupta
النشاط: تسويق الفوسفات والأسمدة

■ **شركة Trimex International FZE (الإمارات العربية)**
عضو مؤازر
المدير العام: Mr. Gopalan Swamtnathan
النشاط: تسويق الفوسفات والأسمدة

Arab Fertilizer Association
Gulf Petrochemical Industries Co.
KINGDOM OF BAHRAIN

ورشة العمل حول:
"نظم الإدارة البيئية"

البحرين: 18 -20 أبريل /نيسان 2005

تنفيذا لخطة عمل الاتحاد لعام 2005 تعقد ورشة عمل تحت عنوان "نظم الإدارة البيئية"

Environmental Management Systems

خلال الفترة: 18 - 20 أبريل / نيسان2005 بفندق كراون بلازا في مملكة البحرين تحت رعاية صاحب السعادة الشيخ عيسى بن علي آل خليفة وزير النفط رئيس مجلس إدارة شركة الخليج لصناعة البتروكيماويات، بهدف استعراض الخطوات والإجراءات البيئية التي مرت بها إقامة مصانع الأسمدة النيتروجينية والفوسفاتية والبوتاسية وواقع الحال استنادا للمعايير الإقليمية والدولية.

يتضمن البرنامج الفني للورشة تقديم محاضرات لخبراء من شركة UHDE الألمانية لكونها إحدى الشركات المتميزة في إنشاء مصانع الأسمدة والبتروكيماويات وحتى يتم إعطاء الورشة بعدا دوليا من قبل بيوت الخبرة والشركات العالمية.

سيتم أيضا تقديم محاضرات للشركات العربية ومن خلالها تعرض خبرات الشركات للاجراءات والمعايير البيئية عبر المراحل التالية:

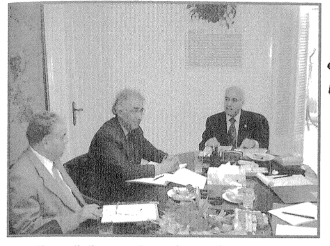
- مرحلة إعداد دراسات المصانع
- مرحلة إعداد كتيب المواصفات وطرح المناقصات
- مرحلة تقييم العروض المتنافسة
- مرحلة التشغيل الأولي والتشغيل الدائم للإنتاج
- مرحلة المراقبة للأداء والمحافظة على المعدلات.

شارك في الورشة عدد كبير من الشركات العربية الأعضاء بالاتحاد والجهات ذات الصلة بالبيئة والصحة العامة في مملكة البحرين ■

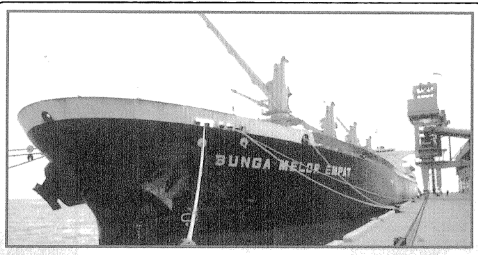


في مقر الأمانة العامة للاتحاد العربي للأسمدة

إجتماع الاتحادات العربية النوعية



برئاسة الدكتور شفيق الأشقر الأمين العام للاتحاد العربى للأسمدة ورئيس الاجتماع الدورى الثلاثين للاتحادات العربية النوعية المتخصصة وبحضور ممثلين عن كل من الاتحاد العربى للصناعات الهندسية، الاتحاد العربى للمعارض والمؤتمرات الدولية، اتحاد المقاولين العرب والاتحاد العربى للحديد والصلب والاتحاد العربى للأسمدة عقد بمقر الأمانة العامة للاتحاد العربى للأسمدة بالقاهرة إجتماعا أكدت فيه الاتحادات العربية العاملة فى نطاق مجلس الوحدة الإقتصادية العربية تقديرها لدور مصر وما تقدمه من دعم لها ونشاطاتها، هذا، وقد بحث المجتمعون توحيد الجهود بين الاتحادات العربية النوعية لتشكل قاعدة ونموذجا لدعم المسيرة العربية فى مجال السوق العربية المشتركة وقد أقر الاجتماع عقد ندوة موسعة فى نهاية شهر أبريل لمناقشة موضوع الدعم والإغراق واتفاقية تحرير تجارة الخدمات فى الوطن العربى.



الندوة الدولية الحادية والعشرون للموانئ البحرية: التحديات وآفاق المستقبل

الأسكندرية 20 – 22 فبراير (شباط) 2005

تحت رعاية معالى الأستاذ الدكتور عصام شرف وزير النقل نظم معهد تدريب الموانئ بالتعاون مع الأكاديمية العربية للعلوم والتكنولوجيا والنقل البحرى الندوة الدولية الحادية والعشرون للموانئ خلال الفترة: 20-22 فبراير (شباط) 2005

بفندق هيلتون جرين بلازا بالأسكندرية.

حضر افتتاح هذه الندوة من الأمانة العامة للاتحاد العربى للأسمدة وفد يضم السيد الدكتور شفيق الأشقر الأمين العام والسيد المهندس محمد فتحى السيد الأمين العام المساعد.

تضمن برنامج الندوة الذى استمر ثلاثة أيام على النحو التالى:

عقدت الجلسة الأولى للندوة تحت عنوان "النقل البحري واللوجستيات". قدمت خلالها ثلاث ورقات عمل.

وتضمنت الجلسة الثانية للندوة "الموانئ والملاحة البحرية: وقد قدمت ثلاثة أوراق عمل خلال هذه الجلسة.

الجلسة الثالثة كانت تحمل عنوان: تطوير الموانئ وقدمت خلالها ثلاثة ورقات عمل.

الجلسة الرابعة كانت بعنوان "السلامة والأمن فى الموانئ" قدمت خلال هذه الجلسة خمس ورقات عمل.

فى اليوم الثالث عقدت جلستان: الجلسة الخامسة تحمل عنوان "إدارة الموانئ" وتم خلالها تقديم ثلاثة أوراق عمل.

الجلسة السادسة تحت عنوان " الاتجاهات البيئية بالموانئ" وقدمت خلالها ثلاث ورقات عمل.

الاتحاد العربى للأسمدة يوقع اتفاقية تدريب مع اتحاد المصارف العربية

تم توقيع اتفاقية بين الاتحاد العربى للأسمدة واتحاد المصارف العربية بشأن تنظيم وتنفيذ ورشة العمل التى سوف يعقدها الاتحاد فى تونس حول "إدارة المبيعات، الوثائق التجارية والضمانات المالية والتفتيش على البواخر وحساب الكميات" خلال الفترة 13 – 15 سبتمبر 2005.

وقع الاتفاقية الدكتور شفيق الأشقر الأمين العام للاتحاد العربى للأسمدة وعن جانب اتحاد المصارف العربية الدكتور فؤاد شاكر الأمين العام للاتحاد. بموجب الاتفاقية سيقوم اتحاد المصارف العربية بانتداب خبير عالمى وهو الأستاذ جاك صابونجى لتقديم محاضرات اليوم الأول والثانى لورشة العمل، وهو عضو فى غرفة التجارة الدولية بباريس منذ عام 1974 وعضو فى اتحاد المصارف العربية وعضو اتحاد البنوك اللبنانية وله خبرة تزيد عن أربعون عاماً في مجال المصارف والبنوك في حين سيتم الاتفاق مع جهة دولية لتغطية برنامج اليوم الثالث المتعلق بعمليات التفتيش والمعاينة البحرية

مجموعة المكتب الشريف للفوسفاط:

كل الدعم والمؤازرة لانجاح فعاليات المؤتمر الفنى السنوى الدولى الثامن عشر للأسمدة

الدار البيضاء - المغرب : 5 - 7يوليو (تموز) 2005

أكد السيد مراد شريف المدير العام لمجموعة المكتب الشريف للفوسفاط على أنه بالوقت الذي يسعد فيه مجموعة المكتب الشريف للفوسفاط بالمملكة المغربية احتضان المؤتمر الفني الدولي الثامن عشر الذي سيعقد بالدار البيضاء وعلى أرض المملكة المغربية فإنه سيجرى اتخاذ كافة خطوات الدعم والمساندة الهادفة لانجاح فعاليات هذا المؤتمر الدولي الهام وعلى أعلى المستويات. جاء ذلك في معرض استقبال السيد مراد شريف للسيد الأمين العام للاتحاد العربي للأسمدة الدكتور شفيق الأشقر في مقر مجموعة المكتب الشريف للفوسفاط أثناء

الدكتور الأشقر والسيد مراد شريف

الزيارة التي قام بها السيد الأمين العام للتحضير لأعمال المؤتمر المذكور الذي سيعقد خلال الفترة: 5-7 يوليو / تموز 2005 بالدار البيضاء. هذا، وقد تقدم الدكتور الأشقر بالشكر والتقدير للسيد مراد شريف متمنيا لسيادته موفور الصحة ولمجموعة المكتب الشريف النجاح وللمملكة المغربية الازدهار.

■ من الجدير بالذكر ان هذا المؤتمر ذو صبغة فنية يضم خبراء دوليون من أصحاب الخبرة والتكنولوجيا المتقدمة فى ميدان صناعة الأسمدة والنشاطات المصاحبة (المحافظة على البيئة، ترشيد استهلاك الطاقة، المرافق والخدمات، المعدات ..) مع ذوي الاختصاص من الشركات الأعضاء.

يشارك عادة فى هذا المؤتمر نحو 300 إلى 400 مشارك من الخبراء من الشركات الهندسية الدولية والمهندسين والفنيين من الشركات العربية أعضاء الاتحاد.

يتضمن برنامج المؤتمر عدد من أوراق العمل موزعة على خمس جلسات عمل متخصصة، تتناول المحاور التالية:

- الجديد فى تكنولوجيا صناعة الأسمدة
- إعادة تأهيل الوحدات الإنتاجية القديمة
- الجديد فى المعدات المستخدمة فى صناعة الأسمدة
- الجديد فى الكيماويات المستخدمة ى صناعة الأسمدة
- الجديد فى تكنولوجيا مكافحة التلوث وحماية البيئة
- الأمن والسلامة والصحة المهنية فى صناعة الأسمدة

بالإضافة إلى دراسات حالة من الشركات العربية فى مجالات اعادة تأهيل الوحدات، نظم التحكم، مكافحة التلوث والصيانة.

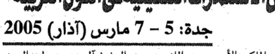
يصاحب أعمال المؤتمر معرض ينظمه الاتحاد العربى للأسمدة بالتعاون مع مؤسسة

مؤتمر "التعاونيات والتنمية فى مصر والعالم العربى"

8-9 مارس 2005

نظمت الأمانة العامة للاتحاد التعاونى العربى بالتعاون المشترك مع مركز صالح عبد الله للاقتصاد الاسلامى بجامعة الأزهر والاتحاد العام للتعاونيات بجمهورية مصر العربية مؤتمرا حول "التعاونيات والتنمية فى مصر والعالم العربى" وذلك خلال الفترة: 8 - 9 مارس (آذار) بقاعة الاجتماعات بجامعة الأزهر.

مثل الأمانة العامة للاتحاد العربى للأسمدة السيد المهندس محمد فتحى السيد الأمين العام المساعد فى هذا المؤتمر ، وقد بدأ المؤمر افتتاحه بكلمة سماحة الدكتور محمد سيد طنطاوى شيخ الأزهر ومعالى الدكتور أحمد جويلى الأمين العام لمجلس الوحدة الإقتصادية العربية وقد أكدا على أهمية التعاونيات كآلية لا غنى عنها لتحقيق التكامل فى ظل التكتلات العالمية الحالية وضرورة التوسع فى استخدامها فى كافة مناحى النشاطات المختلفة حيث أنها تركز على قاعدة بشرية عريضة ولا تخضع للنظم الحكومية المختلفة وبالتالى تمثل المصالح المباشرة لأعضائها وهى تعتبر من أهم الآليات التى نستطيع بها تحقيق التكامل العربى المنشود.



ندوة حول "آفاق وفرص الاستثمارات التعدينية فى الدول العربية"

جدة: 5 - 7 مارس (آذار) 2005

تحت رعاية صاحب السمو الملكى الأمير عبد الله بن عبد العزيز آل سعود ولى العهد نائب رئيس مجلس الوزراء ورئيس الحرس الوطنى وفى اطار تشجيع قطاع الاستثمار التعدينى فى الوطن العربى والصناعات المرتبطة به، نظمت وزارة البترول والثروة المعدنية بالمملكة العربية السعودية بالتعاون مع المنظمة العربية للتنمية الصناعية والتعدين ندوة تحت عنوان "آفاق وفرص الاستثمارات التعدينية فى الدول العربية". خلال المدة: 5-7 مارس (آذار) 2005. صاحب الندوة معرض للاستثمارات التعدينية شاركت فيه الجهات والشركات والهيئات العربية والأجنبية من خلال عرض منتجاتها المعدنية.

شارك فى هذه الندوة عدد كبير من ممثلى الوزارات المعنية والجامعات والمعاهد المتخصصة والشركات والمؤسسات العربية والأجنبية . وحضر هذه الندوة السيد الدكتور شفيق الأشقر الأمين العام للاتحاد. تناولت ندوة "آفاق وفرص الاستثمارات التعدينية فى الدول العربية" العديد من المواضيع الهامة من خلال أوراق العمل التالية التى قدمت خلال جلسات العمل الخمس على مدى ثلاثة أيام.

البتروكيماويات تحتفل بالذكرى الخامسة والعشرون على تأسيسها

تحت رعاية صاحب السعادة الشيخ عيسى بن على آل خليفة وزير النفط رئيس مجلس إدارة الشركة احتفلت شركة الخليج لصناعة البتروكيماويات بالذكرى الخامسة والعشرين على تأسيسها وذلك مساء يوم الثلاثاء الموافق 28 ديسمبر 2004 بفندق ريتز كارلتون.

فى بداية الحفل ألقى سعادة المهندس ناصر أحمد السيارى نائب رئيس مجلس الإدارة كلمة حمد فيها الله على نعمة الانجازات التى حققتها الشركة فى جميع المجالات وبما تتمتع به الشركة من وضع فريد من حيث انجازاتها وشخصيتها المميزة، اذ أنها تجسد روح التعاون التى تربط ما بين دول مجلس التعاون لدول الخليج العربية فى جميع جوانبها.

وأشاد سعادة الأستاذ محمد عبد الرحمن التركيت العضو المنتدب فى كلمته بالسادة العاملين فى الشركة وخدماتهم الجليلة وجهودهم المتواصلة الدؤوبة فى سبيل رفع وتطوير الشركة والعمل بروح الفريق الواحد الذى أتت ثمارها فى تحقيق العديد من الانجازات، كما نوه بأن إدارة الشركة واصلت جهود وترشيد



الانفاق وخفض كلفة الإنتاج، مما أدى إلى تحقيق أرباح صافية بلغت 90 مليون دولار أمريكى مع كسب ورضاء العملاء لمنتجات الشركة ذات الجودة العالية فى الخارج ولله الحمد.

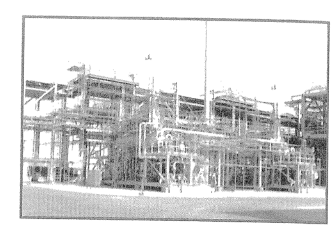


البتروكيماويات تحتفل بأسبوع السلامة والصحة والبيئة

من جهة أخرى، احتفلت شركة الخليج لصناعة البتروكيماويات بأسبوع السلامة والصحة والبيئة الذي بدأ في 11 ديسمبر 2004 وذلك في مجمع الشركة. وهنأ السيد نائب المدير العام جميع العاملين لحصول الشركة على درع السلامة من الجمعية الملكية البريطانية لمنع الحوادث (روسبا) وذلك تقديرا لجهودهم الحثيثة في مجال السلامة والصحة المهنية. مما أهل الشركة شرف الفوز بلقب واحدة من أفضل الشركات في العالم في مجال الصحة والسلامة المهنية، مما أهل الشركة شرف الفوز بلقب واحدة من أفضل الشركات في العالم في مجال الصحة والسلامة المهنية بين جميع منتجي البتروكيماويات. ونوه في كلمته بالانجاز الرائع الذي حققته الشركة وهو ما يزيد على 4,5 مليون ساعة عمل بدون حوادث مضيعة للوقت وذلك خلال عام 2004.

البتروكيماويات تصدر أعلى شحنة من اليوريا

أضافت شركة لخليج لصناعة البتروكيماويات إنجازا هاما في أعقاب نجاحها في تحميل شحنة من حبيبات اليوريا قدرها 40 ألف طن على متن السفينة الضخمة (Bunga Melor Empat) لأحد عملاء الشركة في استراليا وذلك من الرصيف البحري التابع للشركة والمخصص لتصدير اليوريا. وتعد هذه الشحنة أضخم شحنة تصدر إلى استراليا منذ حصول الشركة على شهادة (AQIS) من الدرجة الأولى من الحكومة الاسترالية، وذلك لكفاءة وجودة أنظمتها للمحافظة على صحة وسلامة المنتج المصدر إلى استراليا. وتتمتع السوق الاسترالية بأهمية كبرى لدى منتجي اليوريا كونها إحدى أكبر الأسواق المستوردة لليوريا حيث تبلغ وارداتها من اليوريا ما يقارب 3,1 مليون طن متري سنويا. وتبلغ حصة الشركة حوالي 30 من إجمالي الواردات من اليوريا إلى هذه السوق.





شركة سرت لإنتاج وتصنيع النفط والغاز

المهندس أحمد الهادى عون

رئيس لجنة الإدارة

شركة سرت لإنتاج وتصنيع النفط والغاز هى إحدى شركات النفطية الليبية التابعة للمؤسسة الوطنية للنفط، يقع مقرها الرئيسى بمرسى البريقة 220 كم غرب مدينة بنغازى) حيث يوجد المجمع الصناعى للشركة، وتقوم الشركة بكافة الأنشطة المتعلقة باستكشاف وإنتاج وتصنيع النفط والغاز وكذلك تزويد الغاز الطبيعى للمستهلكين على طول الساحل الليبى.

فى بداية تأسيسها عام 1981 كانت أنشطة الشركة تقتصر على عمليات استكشاف وإنتاج النفط والغاز من الحقول التابعة لها بالإضافة الى نشاط التصنيع المتمثل فى إسالة الغاز الطبيعى وتكرير النفط الخام، وفى بداية عقد التسعينات تم دمج الشركة الوطنية للكيميائيات النفطية فى الشركة كما تم ضم الشبكة الساحلية لنقل الغاز الطبيعى اليها فتكونت شركة سرت لإنتاج وتصنيع النفط والغاز. وهكذا أصبح نشاطها يشمل كافة العمليات النفطية السابقة واللاحقة للإنتاج بدءاً من الاستكشاف والإنتاج فصناعة التكرير وتسييل الغاز الطبيعى وتصنيع البتروكيماويات المتمثلة فى الأمونيا واليوريا والميثانول وتزويد المستهلكين (مصانع الحديد والصلب ومصانع الأسمنت ومحطات توليد الكهرباء ومحطات تحلية المياه والمدن السكنية الحديثة) بالغاز الطبيعى عبر الخط الساحلى الممتد حالياً من البريقة إلى مدينة طرابلس غربا والى بنغازى شرقاً والذى يجرى حالياً مده غرباً ليصل الى الجمهورية التونسية الشقيقة.

المجمع الصناعى البتروكيماوى

يتكون المجمع الصناعى البتروكيماوى فى البريقة من (6) مصانع اثنان لإنتاج كل من الأمونيا واليوريا والميثانول.

بدأ الإنتاج بالمجمع الصناعى سنة 1978 بافتتاح مصنعى الميثانول الأول والأمونيا الأول، وفى عام 1981 أضيف إلى المجمع مصنع اليوريا الأول، وألحق مصنع الأمونيا الثانى بالمجمع عام 1982 ثم أضيف مصنع اليوريا الثانى عام 1984 وفى عام 1985 تكامل المجمع بإضافة مصنع الميثانول الثانى.

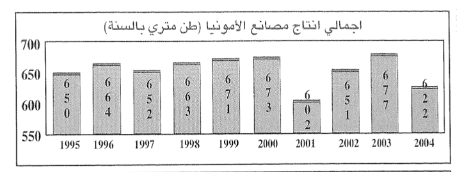
هذا وتبلغ الطاقة الإنتاجية لهذه المصانع 1000 طن مترى يوميا لكل مصنع باستثناء مصنع اليوريا الثانى الذى تبلغ طاقته الانتاجية 1750 طن مترى يومياً كما تم زيادة القدرة الانتاجية لمصنع الأمونيا الأول الى 1200 طن مترى يومياً منذ سنة 1992 بعد إدخال بعض التطوير عليه.

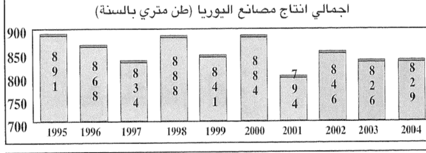
تعتمد فلسفة تشغيل المجمع الصناعى بما فى ذلك المرافق التابعة له من محطة كهرباء ومحطة تحلية مياه البحر ومرافق تخزين وشحن، على اساس التشغيل المستمر لمدة أربعة وعشرين ساعة فى اليوم و365 يوماً فى السنة باتباع نظام الورديات، ويتم وفقاً لذلك اتباع أنظمة صيانة مخططة ومبرمجة لجميع معدات ووحدات المصانع والمرافق التابعة لها وكما يلى:

- ❖ برامج صيانة وقائية دورية لجميع المعدات يتم تنفيذها خلال فترة زمنية محددة وفقاً لتوصيات المصنعين، ومن خلال خبرة الشركة وكذلك حالة ومستوى أداء هذه المعدات.
- ❖ إجراء فحوصات لجميع المعدات وخطوط التشغيل وتنفيذ التوصيات الناتجة عن هذه الفحوصات ، وتقوم الشركة بتنفيذ معظم أعمال الصيانة ذاتياً.
- ❖ إجراء عمرات شاملة لكل مصنع أو وحدة مرافق، علماً بأن هذه العمرات كانت تنفذ سنوياً فى السابق، إلا أنه خلال السنوات الأربع الأخيرة، تم إتباع أسلوب أكثر اقتصاداً اعتماداً على الخبرة المكتسبة من خلال تشغيل هذه المصانع وكذلك الاسترشاد بتوصيات بعض الشركات العالمية، وذلك بإجراء عمرة شاملة كل سنتين لكل مصنع، أي بعد فترة تشغيل مستمرة لمدة 23 شهراً وتستغرق العمرة حوالى 35 يوماً.

وفيما يلى بعض البيانات الأساسية عن المصانع المذكورة :

المصنع	سنة بدء الانتاج	الطاقة التصميمية	المادة الأولية والتكنولوجيا المستخدمة
الأمونيا الأول	1978	1200 طن مترى / يوم	الغاز الطبيعى والماء والهواء / طريقة هابر تصميم شركة أودا الألمانية
الأمونيا الثانى	1982	1000 طن مترى / يوم	الغاز الطبيعى والماء والهواء / طريقة شركة توبسو
اليوريا الأول	1981	1000 طن مترى / يوم	سائل النشادر وغاز ثانى أوكسيد الكربون طريق ستامى كربون لتصنيع سماد اليوريا
			نفس الطريقة المتبعة بالمصنع الاول.
اليوريا الثانى	1984	1750 طن مترى / يوم	الغاز الطبيعى والماء / التهذيب باضافة
الميثانول الأول	1978	1000 طن مترى / يوم	بخار الماء وتصنيع الميثانول بطريقة ICI ذات الضغط المنخفض.
الميثانول الثانى	1985	1000 طن مترى / يوم	نفس الطريقة المتبعة بالمصنع الأول





اجمالي انتاج مصانع الميثانول (طن متري بالسنة)

السنة	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
الإنتاج	635	700	740	698	682	686	572	726	673	599

إنتاج المصانع

الأمونيا (النشادر): يجري إنتاجها باستخدام الغاز الطبيعي (من حقول الشركة كمادة أولية، تستخدم الأمونيا في صناعة سماد اليوريا والألياف الصناعية وغيرها.

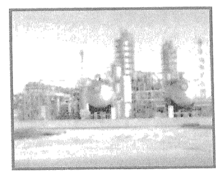
اليوريا: يتم تصنيع سماد اليوريا (اليوريا المحببة) وذلك باستخدام الأمونيا المنتجة بالشركة، ويعتبر سماد اليوريا من أجود أنواع الأسمدة النتروجينية المستعملة فى الزراعة.

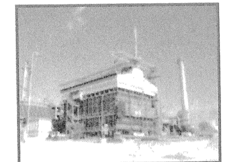
الميثانول: يتم إنتاج الميثانول باستخدام الغاز الطبيعى المنتج من حقول الشركة كمادة أولية ولهذا المنتج استخدامات كثيرة.

■ **ميناء البريقة والمرافق الصناعية الاخرى**

يعتبر ميناء البريقة البحرى واحداً من أهم الموانئ الليبية وهو وينقسم داخلياً الى ميناءين منفصلين، الأول لتصديرالنفط الخام والغاز السائل والنافثا وبعض المنتجات النفطية الاخرى، والثانى مخصص لتصدير المنتجات البتروكيماوية، ويضم الميناء كافة المرافق والأرصفة اللازمة المفردة والمزدوجة الجاهزة لاستقبال الناقلات.

وبالنسبة للمرافق الاخرى التابعة للمجمع الصناعى فيوجد محطة لتوليد الطاقة الكهربائية تحتوى على 3 توربينات غازية بطاقة إجمالية 65 ميغاواط ومحطة تحلية مياه البحر بطاقة 700 متر مكعب/الساعة وتتكون من سبع وحدات، ومحطة لإنتاج البخار اللازم لتشغيل المصانع بالإضافة إلى المرافق الضرورية الأخرى كالمختبر ومحطة المطافى والسلامة وورش الصيانة ومرافق التخزين والشحن. كما يوجد 3 مخازن لتخزين اليوريا يبلغ إجمالى سعتها التخزينية 120 ألف طن مترى ومساحتها المسقوفة حوالى





32,800 متر مربع، ملحق بها مبنى التكييس ومخزن لتخزين اليوريا المكيسة بمساحة حوالى 14,100 متر مربع، إلى جانب خزانين للأمونيا بسعة إجمالية تبلغ 40 ألف طن مترى، و4 خزانات للميثانول سعتها الإجمالية 60 الف طن مترى.

هذا وقد تم خلال سنة 2004 تصدير الكميات التالية من المنتجات البتروكيماوية إلى الخارج :-

- الميثانول 599,956 طن مترى.
- الأمونيا 137,638 طن مترى.
- اليوريا 758,022 طن مترى.

■ **المشاريع المستقبلية**

- مشروع انشاء مصنع لانتاج الفورمالدهايد

قامت الشركة بإجراء دراسة الجدوى الإقتصادية لإنشاء مصنع إنتاج الفورمالدهايد بطاقة 60 طن مترى/اليوم من الفورمالدهايد السائل (AF-37) ليتم استخدامها بديلاً لمادة HMT المستخدمة حالياً فى تغليف حبيبات سماد اليوريا تلافيا لاستيرادها من الخارج والتخلص من العمليات المعقدة ومتطلبات السلامة العالية فى التعامل اليدوى مع هذه المادة، المشروع المقترح سيقوم بانتاج الفورمالدهايد السائلة (AF-37) أو يوريا فورمالدهايد (UF-85).

- دراسة مشروع DAP : تم اعداد دراسة الجودى الإقتصادية لإنشاء مصنع سماد ثنائى فوسفات الأمونيوم بطاقة إنتاجية 1000 طن/اليوم لغرض توفير احتياجات السوق المحلى من هذا السماد وذلك باستغلال المرافق المتوفرة بالمجمع الصناعى ولتوفير المادة الخام، الأمونيا واليوريا.

- دراسة إنشاء مصانع ثالث للميثانول بطاقة إنتاجية 1000 طن/اليوم وذلك بهدف تحسين اقتصاديات المجمع الصناعى والاستغلال الأمثل للمرافق الحالية بالمجمع.

- دراسة تطوير مصانع اليوريا لإنتاج اليوريا المكورة بدل اليوريا المحببة نظراً لزيادة الطلب العالمى وارتفاع سعرها عن اليوريا المحببة.

تولى إدارة الشركة اهتماماً كبيراً لبرامج التدريب والتأهيل للعمالة الليبية بكافة مستوياتها من خلال إعداد الدورات المكثفة لليبيين بمختلف التخصصات، كما يتم ايفاد المهندسين والفنيين الليبيين لدورات دراسية وتدريبية فى الخارج للحصول على الشهادات العليا أو رفع كفاءاتهم وتطويرهم فى مجالات اختصاصاتهم. هذا ويبلغ عدد العاملين فى الشركة حوالى 6,700 مستخدماً من الليبين والأجانب، 88% منهم من الليبيين، اما العمالة بالمجمع الصناعى فتبلغ 756 مستخدماً 82% منهم من الوطنيين.

استمارة الاشتراك فى مجلة الأسمدة العربية

أرغب الاشتراك بمجلة " الأسمدة العربية" لمدة سنة " 3 أعداد" تبدأ من العدد القادم.

الاشتراك : 50 دولار أمريكى للأعضاء - 75 دولار أمريكى لغير الأعضاء

الأسم بالكامل: ________________

الشركة: ________________

الوظيفة: ________________

العنوان البريدى: ________________

فاكس: ________ تليفون: ________ بريد الكترونى: ________

أسعار النسخ الاضافية للشركات الأعضاء

10 نسخ إضافية (ثلاث أعداد سنوياً) 300 دولار

20 نسخ إضافية (ثلاث أعداد سنوياً) 500 دولار

30 نسخ إضافية (ثلاث أعداد سنوياً) 600 دولار

طريقة الدفع

ارسال شيك بالقيمة باسم الاتحاد العربى للأسمدة

ارسل هذا الكارت إلى : الأمانة العامة- الاتحاد العربى للأسمدة

ص.ب. 8109 مدينة نصر (11371) - القاهرة- جمهورية مصر العربية

تليفون: 4172347/9 فاكس 4173721 البريد الإلكترونى: info@afa.com.eg

دعوة للاعلان فى مجلة الأسمدة العربية لأعضاء الاتحاد وغيرهم

	غلاف داخلي ألوان 21 x 29 سم		صفحة داخلية ألوان 21 x 29 سم		نصف صفحة داخلية ألوان 21 x 14,5 سم	
	أعضاء	غير اعضاء	أعضاء	غير اعضاء	أعضاء	غير اعضاء
إعلان فى عدد واحد	400	800	250	500	200	350
إعلان فى ثلاثة أعداد	1000	1800	650	1400	500	800

للإعلان فى المجلة يرجى الاتصال بـ: الأمانة العامة - الاتحاد العربى للأسمدة

ص.ب. 8109 مدينة نصر (11371) - القاهرة- جمهورية مصر العربية

تليفون: 4172347/9 فاكس 4173721 البريد الإلكترونى: info@afa.com.eg

exhibition

afa Technical Conference is the best opportunity for companies to promote their equipments & services to international audience. If your company wishes to raise its profile, there will be an exhibition during the conference organized by afa in cooperation with the British Sulphur Group with the cost:

750 Sterling Pounds : afa member
1200 Sterling Pounds : non afa member

We offer an exhibitors pakage which includes:
* Free registration for one exhibitor
* Display table with chair and electrical power supply
* Access to all conference areas and presentations papers.
* Attendance luncheons and dinners parties
* Contact details for all registered delegates
*Coverage of exhibitors in "Arab Fertilizer" magazine
For further information on conference and for table booking kindly contact:

Exhibition Division
afa General Secretariat
P.O. Box: 8109 Nasr City (11371)
Cairo - Egypt
Tel: +20 2 4172347 Fax: +20 2 4173721
Email: info@afa.com.eg
Web site: www.afa.com.eg

Exhibition Division
British Sulphur Publishing,
31 Mount Pleasant, London W1X OAD
Tel: +44 20 7903 2437
Fax: +44 20 7837 4339
Email: tina.firman@crugroup.com

advertising brochure

afa will print a color advertising brochure size A4 normally distributed to all delegates and VIP guests during the conference with the following special rates:

Back cover:	US$ 1000
Inside back cover:	US$ 800
Inside page:	US$ 400 for afa member
Inside page:	US$ 750 for non-afa member
Half page:	US$ 200 for afa member
Half page:	US$ 400 for non-afa member

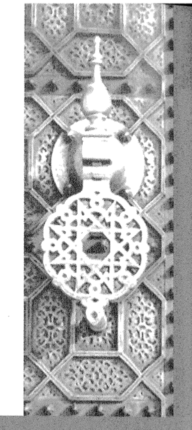
about afa

afa is a non-profit, non-gov. Arab International Organization established on 1975. afa is operating under the umbrella of Council of Arab Economic Unity and has the status of a body corporate fully competent with more than 100 member companies from 23 countries. afa aims to coordinate and develop technical, commercial and managerial relations in the field of the fertilizer industry, raw materials and fertilizer use and applications.

about ocp

OCP is the first world exporter of phosphate rock (39,1%), first world exporter of phosphoric acid (49,0%) and first exporter of phosphate under all forms (30,9%).
Manufactured products phosphate rock (several grades), phosphoric acid (various qualities), solid fertilizers (DAP, MAP, TSP in addition to ASP and NPK for local market).

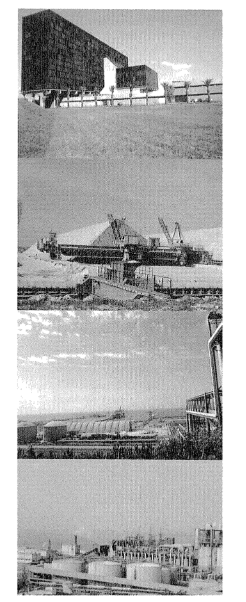
conference objectives



Arab Fertilizer Association is pleased to announce that afa 18th International Annual Technical Conference will take place in Casablanca, Morocco in association with Groupe Office Cherifien Des Phosphates - OCP.

The conference will look at latest development in the fertilizer industry, environment protection and bring together experts in fertilizer industry from Arab countries and international companies to present their technology and experiences.

conference topics



The conference will include presentations on:

*New Technology in fertilizer industries (Nitrogenous-Phosphatic and Potash).
*New technology in phosphate mining and beneficiation process.
*Specific technology for producing liquid & solid micro-elements.
*Operation and Maintenance (Case Studies).
*Materials selection and upgrading, corrosion protection and inspection for equipments.
*Health, Safety and Environment (HSE).
*Disposal of Phosphogypsum and solid waste.
*Water conservation strategy in fertilizer industries.
*Energy conservation in fertilizer industries.
*Chemicals and catalysts necessary for fertilizer industries.
*Best technology in storage, handling and transportation of fertilizers.

Updated programme on the conference will be posted on afa web site:

www.afa.com.eg

confirmed speakers

1- Haldor Topsoe - Denmark
2- Sud-Chemie - Germany
3- Bedeschi - Italy
4- Neelam - India
5- RPA Process Technologies - France
6- MARAFIQ - S. Arabia
7- OCP - Morocco
8- Sirte - Libya
9- APC - Jordan
10- JPMC - Jordan
11- Aqua Trust - Egypt

Subscription Order Form " Arab Fertilizer Journal"

I wish to subscribe to Arab Fertilizers for one year (3 issues) starting with the next copy.
Subscription rate US$ 50 for AFA members & US$ 75 for non AFA members

Name:———————— Position: ————————
Organization: ————————
Postal Address: ————————
Country: ————————
Fax: ———— Tel: ———— E- mail————
signed: ————————

For AFA members
Rate of supplement copies
"Arab Fertilizers" journal:
- 10 copies (3 issues per year) US$ 300
- 20 copies (3 issues per year) US$ 500
- 30 copies (3 issues per year) US$ 600

Send cheque to the name of
"Arab Fertilizers Association"
Address:
Arab Fertilizers Association (AFA)
P.O.Box 8109 Nasr City - Cairo 11371 - Egypt
Tel.: + 202 4172347/9 Fax: + 202 4173721
E-mail: info@afa. com. eg

Events Calendar

AFA Events 2005:

Contact **afa** for further details:
Fax: (+20 2) 4173721 - Email: info@afa.com.eg - Web site: www.afa.com.eg

- 18-20 April — Workshop on : Environmental Management Systems - Bahrain
- 5-7 July — **afa** 18th Int'l Annual Technical Conference - Morocco
- 13-15 Sept. — Workshop on : Sales Administration, Certification of Commercial Documents & Financial Guarantee - Tunis

Non-AFA Events (2005)

Abu-Qir Training Courses:

- 15-19 May — - It Technology & DCS System "Engineers"
- 05-09 June — - Pumps & Fans (Level/2) "Enginers"
- 26 - 30 June — - Combustion
- 10-14 July — - Turbines, compressors & vibration analysis. Part2 "Enginers"
- 24-28 July — - Bagging Units
- 07-11 August — - Case studies in urea plant
- 21-25 August — - Modern Control Systems For Operation & Control Engineers

- 6-8 June — - 73rd IFA Annual Conference - Kuala Lumpur, Malaysia
- 13-15 June — -IFA-IFDC Nitrogen Fertilizer Production Technology Workshop-Maastricht, The Netherlands
- 28-30 June — - IFA Int'l Workshop on Enhanced Efficiency Fert. - Frankfurt, Germany
- 11-14 Sept. — - IFA Production & Int'l Trade Meeting - Sao Paulo, Brazil

demolition is expected to play only a minor role for tonnage supply in the next few years.

The bulk carrier order book at the turn of the year corresponded to 17.0% of the existing fleet. Scheduled deliveries in 2005 correspond to 6.2% of the existing fleet, to be followed by 5.7% in 2006, and, so far, 3.1% in 2007. We recon that the room for additional orders with 2007 delivery is quite limited. A look at the order book by size shows that the Capesize (80,000 dwt+) order book corresponded to 25.6% of the existing fleet of such vessels, for Panamax (60-80,000 dwt) the share was 15.1%, and for the still rather modest size group Super-handymax (50-60,000 dwt) as high as about 61%. On the other hand, the order book for handysize (10-50,000 dwt) was very modest with only 3.6%. Hence, from a future tonnage balance point of view, the supply side appears most comfortable for the handysize group, which is predominant in serving the fertilizer industry.

However, the rapidly growing fleet of Super-handymax vessels will have an impact on the handysize market and also contribute to a stronger link between the handymax and the Panamax markets. For the total size range 10-60,000 dwt, the order book corresponded to 11.3%. After a modest growth of 2.5% in for the total bulk carrier fleet over 10,000 dwt in 2003, last year saw a growth of 5.7%, to be followed by 4.9% next year and 3.4% in 2006, and maybe even less in 2007, which could then create another window of opportunity in the dry bulk market.

For comparison, our present tonne-mile forecasts for total dry bulk shipments show a growth of 6.7% in 2003; last year also turned out to be a very strong year with 6.8% growth, to be followed by some 4.8% next year. On top of the fleet and the tonne-mile developments, operational factors, in particular congestion in various locations, play a most vital role in the rate formation in some market segments, most for Capesize and Panamax, but with clear repercussions also down in the lower size groups.

One year ago, we wrote about "party time" in shipping, which actually turned out to be just a prelude to the real celebration. We think that 2005 will be another good shipping year, albeit downward corrections in rate levels should be expected for oil tankers and bulk carriers.

However, rate levels are expected to remain very well above cost plus.

We have seen that Imarex futures show a clear downward trend for all bulk carrier size groups over the next three years. A closer look at handymax futures through 2004 shows that quotations for calendar 2005 have actually been slightly more volatile than the spot rate development itself. This is most interesting from a hedging as well as from a speculation point of view. It is interesting to see that the consolidated view of market actors for all of the next three years improved significantly over the last quarter of 2004, whereas the spot rate slipped markedly.

At the start of 2005, the Imarex average for 4 handymax timecharter routes was about USD 29,700 per day, it was USD 24,750 for 2005, USD 15,250 for 2006, and as low as USD 11,500 for 2007. Fearnleys' Monthly market report for December shows required timecharter rates of some USD 13,5/14,000 per day for new and medium age handymax, based on 25 years lifetime and 10% return on total capital invested. This rate requirement is perhaps a bit on the high side, in view of the low interest rates in the present capital market and normally a somewhat longer lifetime for such tonnage.

I'm inclined to believe that the handymax market will remain rather robust in the next few years and that we shall see that rates 2-3 years from now could turn out to be significantly less reduced from today's more than healthy levels. Thus, in my view, USD 11,500 per day for a handymax in 2007 (down over 60% from present spot level) should appear as a very interesting proposition for the cargo owners. This view is based, more than anything else, on a continued strong economic development in China, albeit not necessarily at today's very high growth. Most of all the future dry bulk market will depend on China's steel industry, but trends in the thermal coal trade, to quite some extent reflecting troubled geopolitics in the oil market, will also be of paramount importance. There could also be interesting freight market upsides from increased grain and soybean imports to China and other countries in Asia.

Within a time span of 2-3 years, the momentum on the dry bulk tonnage demand side seems to be rather solid. Downside risks appear limited, but financial markets will always be sensitive to political instability and terrorist actions.

handysize market is more robust in the sense that it serves so many different industries and have a much more dispersed trading pattern. Looking ahead, it appears from Imarex futures that all sizes are believed to be able to stay rather firm at high rate levels this year. Compared with the going spot levels at end 2004, calendar 2005 quotations were down as follows: Capesize -14%, Panamax -9%, and handymax -16%. For the following couple of years, declines from present levels were ranging from 42% to 51% in 2006 and from 53% to 61% in 2007.. In our view, these levels seem somewhat too pessimistic. After a survey of expected tonnage demand and supply, a closer focus will be set on future handymax rates.

World oil demand is estimated by the International Energy Agency to increase 3.3% in 2004, which is the highest growth in 30 years. Late in the year Middle East production was running over 10% higher than one year before. Next year world oil demand is expected to increase only 1.7% and the call on OPEC oil is expected to decrease slightly because of more alternative supply.

World crude steel production was up 9% over the first 11 months of the year. Pig iron production, requiring iron ore and coking coal saw a similar increase. China's pig iron production was up over 23% over the period and over 32% higher in November than one year before. However, the growth in China's steel consumption is reported to have slowed considerably and China has become a net steel exporter in recent months. The strong gap between recent modest Chinese steel consumption growth and the country's amazingly high steel production growth should give reason for some concern in the dry bulk market.

A look at Chinese trade volumes shows a strong comeback for iron ore imports after a downward correction early in the year. Year-to-date iron ore imports for 11 months were up as much as 40%. Crude oil imports have declined somewhat in recent months, but the y-t-d volume for 10 months was up 29%. Coal exports from China over 10 months were down about 8%, which is good for the freight market because of the need for more long-haul imports to neighbouring countries.

Preliminary estimates show that world dry bulk trade volume rose some 6.7% from 2,330 million tonnes in 2003 to about 2485 mt in 2004, with 2590 mt, up 4.1%, expected in 2005. Coal shipments increased from 610 mt in 2003 to 655 mt in 2004, with 680 mt foreseen this year. Iron ore saw the strongest increase from 525 mt in 2003 to about 590 mt in 2004 and 2005 forecast of 625 mt. Grain shipments (including soybeans) show a more stable development from 245 mt in 2003 to 250 mt in 2004, with 265 mt expected in 2005. The very heterogeneous group of other dry bulk commodities (including fertilizer and fertilizer raw materials of around 100 mt) is estimated to increase from 950 mt in 2003 to 990 mt in 2004, and 1015 mt in 2005.

The steel industry, and in particular China's steel production, represents the by far most important demand element in dry bulk shipping and thereby it also sets the pace in all dry bulk market segments. A closer analysis shows that the steel industry accounts for about 50% of the total demand for dry bulk tonnage. This includes shipments of iron ore and coking coal, manganese, ferroalloys, limestone, iron and steel scrap, and the trade in finished steel products. The role of China has increased dramatically. China's share of world pig iron output, based on iron ore and coking coal, has increased from about 31% in 2003 to 35% in 2004. In 2004, China accounted for about 35% of total seaborne iron ore imports, followed by Japan with 23%. Only two yeas ago Japan imported 15% more iron ore than China.

Turning to tonnage supply, it appears that ordering of new oil tankers decreased from 49 million dwt in 2003 to about 34 mdwt in 2004, whereas new bulk carrier orders dropped from 31 mdwt to 19 mdwt. As could be expected because of the good market conditions, demolition sales almost evaporated in the latter part of the year. Demolition sales of tankers decreased from about 18 mdwt in 2003 to 7.7 mdwt in 2004. In addition, about 2 mdwt has been taken out of the sailing fleet for conversion to offshore purposes. Bulk carrier demolition sales decreased from 3.2 mdwt to just 0.6 mdwt. Towards year's end, different vessel types had the following order books compared with existing fleets: oil tankers about 28 %, bulk carriers 17%, container vessels 51%, LPG 18%, and LNG as much as 75%.

A look at the age profile of the bulk carrier fleet shows that as little as 1.2% is over 30 years old and a just total of 8.6% is over 25 years old. Thus,

Global Transportation Aspects with Main Focus on Dry Bulk

Mr. Jarle Hammer

Chief Economist - Fearnlyes A/S, Norway

2004 was the best year since 1973 for tankers and the best ever for most other vessel types. Rates and values soared to almost unbelievable levels for new and even for very old ships. China's ever increasing importance was evidenced both by the country's strong economic growth and temporary market setbacks, following measures to cool down its hot economy. In this fantastic shipping year, however, many shipyards lost money by delivering vessels ordered at much lower prices than seen today whilst facing much higher steel prices and various bottlenecks on the equipment side.

It is hard to evaluate the consequences of the dramatic Christmas earthquake and tsunami in the Indian Ocean. After enormous emergency efforts, the need for reconstruction of homes, infrastructure and tourist resorts will boost demand for steel, cement and other building materials. Even in a global context this could develop into a rather significant dry bulk demand element.

Substantial downward rate corrections towards the end of the year are just a reminder of the strong volatility and cyclical nature of the market. However, rate levels as the year elapsed were still more than excellent. This illustrates how extreme recent rate levels have been and confirms the established truth that paradigm shifts have never occurred in an open business like shipping, even though trading patterns have undergone dramatic changes.

Industrial production in many countries showed clear signs of weakness towards the end of the year. Rate levels saw substantial downward corrections, most for the largest tankers which saw spot returns tumble about 80% from extreme levels in just a few weeks - and then to levels which are still more than healthy! Also the dry bulk market saw decreasing rates in December, and the Baltic Dry index came down 24%, also to a still very good level.

Container vessels saw a very strong increase in timecharter rates throughout the year, up some 60-80%, most for smaller sizes. For vessels of 2,750 TEU, the timecharter rate at end 2004 was about 4.5 times higher than three years before. We have seen increased containerization of bulk trades, especially on imbalanced routes, like in the Northern Pacific. On North America's west coast container imports have been roughly twice as large as exports, with a lot of empty containers going to Asia. With the strong increase in bulk rates, more forest products, soybeans, etc. are now shipped in containers. The very high order book for container vessels is expected to have negative impact on the tonnage balance and could well open for somewhat cheaper freight.

The market for LPG carriers is of interest for the fertilizer industry because of the substantial volume of ammonia shipments. Vessels of 54,000 cbm are the ones most used in this trade. In general, the market for LPG carriers, mainly carrying LPG, such as propane and butane, besides ammonia, and petrochemical gases, improved significantly through 2004. Rates for 54,000 cbm went from USD 630,000 per calendar month to USD 825,000 pcm, before easing to USD 805,000 pcm, or some USD 26,000 per day. With a rather limited scheduled influx of new LPG carriers and some interesting employment in transportation of clean petroleum products, the market for such vessels is expected to stay firm and could improve somewhat in 2005.

Turning the focus back to bulk carriers, rate variations in the handysize market are normally somewhat softer than for larger sizes. The

the ability to develop symbiosis with nitrogen-fixing bacteria.

8. Challenges and opportunities for the fertilizer industry

The fertilizer industry faces a number of new challenges, in particular due to environmental pressures and the innovations of "non-traditional" competitors.

Current levels of nutrient use efficiency show that the uptake of applied fertilizer nutrients by plants is unacceptably low. Depending on the nutrient source and application method, use efficiency of nitrogen is often less than 50 per cent and of phosphorus less than 20 per cent. There are many chemical and biological reasons why fertilizers are not taken up efficiently by the plant (immobilization, leaching, denitrification, volatilization, distance to the seed or the roots, etc.). Nonetheless, it is valid to ask what other industry would tolerate such a low product efficiency.

Given these levels of nutrient use efficiency, what is the fertilizer industry doing to develop better fertilizers and to improve the value of its products and services for its farm customers? Unlike the associated crop protection and seed industries, the fertilizer industry has not focused on extensive research and development (R&D) to develop better fertilizer products or better management practices. The consequences of fertilizer misuse are coming back to haunt the industry in policy arenas. Increasing legislated restrictions on the use and application rates of fertilizers could have been avoided based on the industry's current agronomic knowledge.

Coupled with a tougher regulatory framework, the competitive environment of the fertilizer industry is also changing. Agricultural R&D has been moving into the private sector for a number of years. One of the main drivers is reduced funding from government agencies that has unwittingly encouraged more partnerships between the industrial, government and academic sectors. However, this cooperation is driven primarily by financial exigency rather than by a strategic plan to link the three sectors. This lack of support by government for fundamental research and the renewed emphasis on "results" by funding agencies creates a short-term focus that could have serious long-term negative implications on the fertilizer industry's future ability to compete globally. In particular the encroachment of non-traditional competitors such as the crop protection and seed industries, which have a long history of investment in R&D and which see opportunities in plant nutrient optimization, could put severe pressure on the traditional fertilizer producers.

These challenges can be seen as threats or, if they are addressed by the fertilizer industry in a proactive manner, they could be turned into opportunities.

9. Conclusion

Today, many biotechnology inventions with a potential direct or indirect impact on crop nutrition are being developed. Although most of these technologies will not be marketable within the next few years, it is critical to be aware of these emerging technologies that are potentially disruptive to business as usual in the fertilizer industry. Their impact on fertilizer demand might be either positive or negative, depending on the particular invention. A preliminary assessment shows that, in a 10-year timeframe, positive impacts on fertilizer demand might slightly offset the negative ones, and that this trend might reverse itself in a 10 to 30-year timeframe. However, this forecast could change dramatically as the field of biotechnology is evolving at a breathtaking speed.

The resultant challenges will remain unless the fertilizer industry reacts proactively to these new technologies. The shift from fertilizer producer to plant nutrient supplier gives the fertilizer industry the opportunity to lead by driving the development of radically new technologies itself before non-traditional competitors do, or before regulators impose burdensome procedures and regulations on fertilizer production and use.

10. References

- Arcadia Biosciences. Personal communication. 2004.
- Heffer, P. 2003. Potential Impact of Biotechnology on Medium- to Long-term Fertilizer Demand. IFA, Paris. 2003.
- James, C. 2003. Preview: Global Status of Commercialized Transgenic Crops: 2003. ISAAA Briefs No. 30. ISAAA, Ithaca. 2003.
- James, C. 2004. Highlights of ISAAA Brief No. 32. Preview: Global Status of Commercialized Transgenic Crops: 2004. ISAAA, Ithaca. 2003.
- Rennie, R. and Heffer, P. 2003. Biology, Innovation and the Fertilizer Industry: Is the Change Imperative? FIRT, Forest Hill. 2003.

transferred or modified, problems with the effective expression of the new trait may arise and cannot always be overcome easily. This might significantly postpone the commercial release of some innovations.
In addition, the introduction or modification of one trait might impact the crop metabolism or other crop characteristics. For instance, if the ability to develop symbiosis with bacteria that fix atmospheric nitrogen was transferred to cereals, a drop in the cereal yield would not be surprising, because the modified cereals would have to provide carbohydrates to the bacteria in exchange of ammonia. All things being equal, such an interference would seriously limit the interest of transferring this trait to cereals. However, a sharp increase in the price of nitrogen fertilizer might create an economic incentive strong enough to compensate for the modified cereal's lower yield.

6.2. Regulatory procedures

Any transgenic variety must be approved under regulations relating to human and animal health (food/feed safety) and the environment (biosafety). This lengthy and expensive process delays the release of genetically modified (GM) varieties and, thus, the moment when the developers can benefit from their product. In contrast, varieties that are enhanced through genomics and the use of marker-assisted breeding would not be subject to these cumbersome procedures.
It is difficult to speculate today on the likely impact of environmental policies/regulations in force at the time of the future release of new varieties. This is true for individual regulations or those that interact. For instance, in ten years' time would regulations regarding GMOs or nitrates in water be more stringent? The answer to such a question would be very relevant in the case of GM varieties with an enhanced nitrogen use efficiency.

6.3. Intellectual property rights and related economic considerations

Most biotechnological innovations are protected by patents, which protect them for at least 20 years after the right is granted. This temporary right affects seed prices. Moreover, in most legal systems, patent protection prohibits the production of farm-saved seed, a common practice for many farmers growing wheat, rice, pulses, etc. Given this ban, would a variety with a trait enhancing the plant's nutrition patterns still be attractive to the farmer? If so, for which farming systems and under which conditions? What would happen once the patent rights expire? What if the invention remained in the public domain?

6.4. Competitive advantage

The potential of biotechnological innovations should be also considered in a wider context. What would be the economic benefit for farmers if they used varieties with enhanced crop nutrition patterns if nitrogen fertilizer products and prices would remain unchanged from today? What if the efficiency of nitrogen fertilizer production, transport and use would improve?

6.5. Public opinion

Last but not least, the adoption of biotechnological innovations in general, and of GMOs in particular, will be influenced by public opinion regarding a number of societal issues such as the protection of biological diversity and the equitable sharing of benefits arising from the use of genetic resources. The evolution of the perception of biotechnology's benefits and potential risks is also crucial. This is particularly true in Europe, but also in the countries targeting Europe as a key export market. At least in the short term, this will certainly be one of the main drivers in determining whether farmers embrace modern biotechnology.

7. Potential impact on medium- to long-term fertilizer demand

Today, many biotechnological inventions with a potential direct or indirect impact on crop nutrition are being developed. Whether they affect fertilizer demand positively or negatively depends on the specific innovation. A preliminary assessment indicates that, in a 10-year timeframe, positive impacts on fertilizer demand would probably more than offset the negative ones, and that this trend might be reversed in a 10 to 30-year perspective.
However, this forecast will need to be regularly updated in the light of future scientific developments, since the pace in this field is evolving at a dizzying speed. It is also necessary to monitor the main agricultural countries, since their policy choices–regarding issues such as bioenergy, legume crops use or nutrient budgeting–will be hugely influential. For example, if leguminous crop cultivation would be encouraged by a combination of technology and supportive policies, it could be expected that this would have a much more detrimental impact on the nitrogen fertilizer industry than the still hypothetical transfer from legumes to cereals of

Taking into account the long growing cycle of forest trees, it is quite unlikely that this innovation will come to market before 2015.
More intensive forest management would probably require a more extensive fertilization to compensate for higher nutrient exports that would result from the harvesting of faster-growing trees.

5.2.13. C4 genes

Cereals are split into two groups by their type of photosynthetic metabolism: the C3 group (wheat, rice) and the C4 group (maize, sorghum), the latter having a significantly higher photosynthetic efficiency. Transferring C4 genes from maize to rice or wheat would improve their metabolic efficiency. Such work is being carried out on rice in Japan and at the International Rice Research Institute (IRRI) in the Philippines. There are claims that this could increase the rice yield potential by as much as 20 per cent.
Since the photosynthetic metabolism involves many genes, it is quite unlikely that this trait would be transferred to C3 plant species in less than 10 to 20 years.
The higher potential yields generated by this transformation would result in greater nutrient requirements.

5.3. Improvement of microorganisms and symbiosis

5.3.1. Phosphorus solubilization

A phosphorus-solubilizing fungus (Penicillium bilaii) is currently used in western Canadian and some northern US soils to stimulate phosphorus uptake. It is sometimes combined with rhizobial inoculants.
An impact similar to the one expected with phytase-excreting plants is obtained (see section 5.2.8).

5.3.2. Sulphur oxidization

There is a strong desire for higher analysis sulphur fertilizers but elemental sulphur is not readily available to plants. To solve this conundrum, researchers at the University of Saskatchewan, Canada and at Leeds University, United Kingdom have isolated a sulphur-oxidizing bacterium which efficiently oxidizes elemental sulphur.
The use of sulphur-oxidizing bacteria would facilitate the use of elemental sulphur as opposed to oxidized forms of sulphur in fertilizers, but would have no effect on the quantity of sulphur that crops require.

5.3.3. Induced symbiosis with nitrogen-fixing bacteria

Researchers have attempted to transfer the ability of legumes to enter into symbiosis with nitrogen-fixing bacteria to other crops, but interactions between Rhizobia and legumes are very complex. Collaborative research between Chinese and Australian scientists has created legume-like nodules on wheat, but nitrogenase expression was not achieved.
Nod factors are signaling molecules involved in this symbiotic interaction. They are synthesized by Rhizobia. At least six plant genes are believed to play a role in Nod factor perception and transduction. Research teams in the United Kingdom and Hungary have recently identified one of these six genes. Other teams are now trying to identify the remaining five genes. In addition, other rhizobial signals are involved in the symbiotic interaction and a number of plant genes are expected to be involved in their perception and transduction as well as in the induction of the symbiotic response.
As the symbiotic ability involves several interactions between crop genes and rhizobial genes, it is probably quite safe to say that this trait is unlikely to be available in cereals before 2020, and probably much later. Moreover, the possible transfer of this ability to cereals remains hypothetical, as no "proof of concept" has yet demonstrated that the transfer of nitrogen fixing ability to non-legumes is possible. Furthermore, if such a transfer would be feasible, there are many questions about how these genes would interact with other cereal genes and how the symbiotic trait would be expressed in cereals.
Theoretically, this development could have a significant impact on the nitrogen fertilizer industry since nitrogen-fixing crops would no longer require nitrogen fertilizers. In reality, the impact is likely to be much less serious for a number of agronomic and economic reasons.

6. Constraints to the marketing of biotechnological innovations

In addition to the scientific factors considered above, a number of constraints as regards the marketing of biotechnological innovations should be taken into account in order to assess the most likely impact of these innovations on the fertilizer industry.

6.1. Technical constraints

A number of years are required between the discovery of a gene and its successful transfer to or modification in target crops. Moreover, when

such genes would greatly improve nutrient use efficiency, particularly of nitrogen and phosphorus. This would mean that the same crop output could be attained using less fertilizer, or higher yields could be achieved with the same fertilizer input. This would also reduce nutrient losses to the environment.

However, progress in this area might be subject to important constraints. There is a close link between the harvest index (long used by conventional plant breeders to enhance crop yield potential) and nitrogen use efficiency. Therefore, the latitude for further improving the nitrogen use efficiency of major crops might be quite limited. The potential for improving phosphorus use efficiency might be significantly higher.

Once specific genes are associated with these functions, marker-assisted breeding may accelerate the development of appropriate varieties. However, as mentioned earlier, the greater challenge lies in achieving the optimum expression of the selected gene(s) in a specific environment. This will most likely require several years of additional genomic research, so varieties with improved nutrient use efficiency traits might not be commercially available before 2010.

It is worth noting that varieties generated by marker-assisted breeding would not be transgenic and, therefore, would not require lengthy trials to comply with biosafety and food/feed safety procedures. Moreover, their development would probably escape from the current controversy about transgenic crops triggered by consumer concerns in Europe.

These traits might lead to a reduction in fertilizer nitrogen and phosphorus consumption, since lower fertilizer use would be required to obtain the same crop output.

Some scientists from private seed companies claim that nitrogen and phosphorus use efficiency could be increased by 20 per cent or more, but this information has yet to be confirmed in field trials. In recent months, an American crop biotech company (Arcadia Biosciences) has developed transgenic canola (rapeseed) with enhanced nitrogen use efficiency. This trait has been obtained by modifying the plant's metabolism to increase the activity of the nitrate transporters and, therefore, to enhance nitrogen uptake. The first field tests reveal as much as a 50 per cent increase in nitrogen use efficiency, with overall efficiencies as high as 80 per cent. Further tests will be carried out in 2005 in order to confirm these results. If everything progresses according to schedule, the first rapeseed varieties developed by Arcadia might be released by the end of the decade. Arcadia's work on rice is less advanced.

5.2.10. Genetic control of heavy metals uptake and/or tolerance

There are two ways to use genetics to address concerns over heavy metals in the food chain: (i) by decreasing the uptake of heavy metals by food crops and (ii) by increasing the tolerance and the uptake of non-food plants that would be used for soil bioremediation purposes. Current work focuses mainly on arsenic, but similar work could be done on cadmium and other heavy metals. The use of genetics could be an alternative to burdensome and sometimes unjustified regulations on heavy metals contained in some fertilizers. Cadmium in phosphorus fertilizers and both arsenic and lead in micronutrient fertilizers spring to mind.

Varieties with these traits might be available as early as 2010. In the United States and Canada, varieties of wheat, flax and sunflower with low cadmium uptake are currently being screened and developed through conventional breeding.

The impact of these traits would not be on the total fertilizer consumption level, but on the origin of the fertilizers used. This development could preempt attempts to ban fertilizers from certain sources that have above-average contents of heavy metals.

5.2.11. Improved energy efficiency of biofuel crops

The production of biofuels from crops requires multiple industrial process steps. Enabling maize to produce its own amylase would simplify the process used to produce ethanol from this grain. By eliminating the need to break starch down into sugar, this development would make biofuels more competitive against fossil fuels.

The time required before the commercial release of such varieties is uncertain. But since genetic control of this trait is simple, it might be available at the beginning of the next decade.

Making biofuels more competitive would lead to an increase in global crop production, which would have a positive effect on fertilizer demand, provided the policy framework is supportive of biofuels.

5.2.12. Low lignin

In order to make forestry a more profitable business, researchers are developing fast-growing, low-lignin trees. By reducing energy requirements and waste production, these trees would greatly benefit the pulp and paper industry. These developments would also contribute to the preservation of virgin forests.

From a fertilizer consumption standpoint, these developments should lead to:

- an increase in sulphur fertilizer use to compensate for the sulphur removed through the crop's additional methionine production;
- a possible reduction in nitrogen fertilizer use because less protein would be needed to meet the animal's needs in essential amino acids.

In some cases, researchers are trying to combine higher essential amino acid levels with higher protein content. Such varieties would have a positive impact on the use of sulphur fertilizer and probably a neutral effect on the consumption of nitrogen fertilizer.

5.2.4. Higher iron content

Micronutrient deficiencies in general, and iron deficiency in particular, are among the major global health concerns today. According to the United Nations, two billion people suffer from severe iron deficiency, without mentioning the large number lacking other essential vitamins and minerals. Some researchers are using genetic enhancement to improve the micronutrient uptake, trace element storage in edible parts and bioavailability of nutrients in some staple food crops to compensate for these dietary imbalances.
Rice and maize varieties with higher iron content are under development and are expected to be available to farmers by the end of the decade.
it is likely that these plants will remove more iron from the soil, requiring higher iron supplies through fertilization practices.

5.2.5. Other functional foods, nutraceuticals

In addition to iron content, other aspects of nutritional value are being developed in several plants and food products. These include plants with higher vitamin content, modified fatty acid profiles and increased levels of beneficial molecules such as lycopene or isoflavones. These so-called "functional foods" or "nutraceuticals" will most certainly require adapted fertilization to foster the full expression of the new trait. For example, these varieties will certainly have unique nutrient input requirements with probably higher needs in potassium, secondary and micronutrients.

Many of these "output" traits should be available soon.

5.2.6. Tolerance to drought and salinity

The introduction of genes leading to mannitol production by plants or to an increased acquisition and storage of potassium as opposed to sodium are just two of the techniques being employed to improve the tolerance to drought and salinity of several crops.
Salt-tolerant tomatoes are one of the most advanced crops in this respect, and their commercialization is imminent.
In fertilizer terms, higher potential yields in dry areas or those with saline soils should generate an increase in fertilizer use. Moreover, salt tolerant varieties would probably need more potassium fertilizer to fully express the new characteristic.

5.2.7. Aluminium tolerance

It is estimated that approximately 40 per cent of tropical soils are acidic, associated with problems of aluminium toxicity and, to a lesser extent, manganese toxicity (in addition to critical issues of low phosphorus availability). This can severely limit yields. In order to overcome this major constraint, research work is being carried out to develop aluminium-tolerant plants.
Varieties expressing this trait might be available to farmers by the end of the decade.
This development will probably lead to significant growth in fertilizer consumption in tropical areas to compensate for higher nutrient removals associated with higher yields.

5.2.8. Phytase-excreting plants

A substantial proportion of organic soil phosphorus is in the form of phytate, a compound that is largely unavailable to plants. The development and cultivation of phytase-excreting plants could provide at least a partial solution to this problem by helping them use phosphorus immobilized in the soil.
Several years of development and field trials are still required before the commercial release of such varieties, but they might be available to farmers by 2010.
A negative impact on phosphorus fertilizer consumption could be expected initially, since these varieties would be able to use previously immobilized phosphorus. However, once this stock is exhausted, phosphorus fertilizer use should stabilize at an appropriate level for compensating phosphorus removals.

5.2.9. Improved uptake and metabolism of nutrients

Studies of key plant genomes have made it possible to identify some of the genes and gene variants that improve the uptake and efficiency metabolism of nutrients. The use of marker-assisted breeding to create varieties with

understanding of genome structure and functioning will pave the way for major advances in a medium-term perspective.
Today, one of the most important contributions of genomics is to "anchor" marker DNA sequences near specific genes during breeding in order to track traits that are otherwise difficult to observe. This method, called "marker-assisted breeding", offers the possibility of making more precise and rapid genetic progress than through phenotypic selection only. It also allows breeders to achieve certain results that were unattainable using older methods.

5. Innovations that might impact fertilizer demand

5.1. Continued improvement of the yield potential and yield stability

Conventional plant breeding already dramatically increased the yield potential of many crop varieties during the 20th century. More recently, modern biotechnology has contributed greatly to the set of tools available to plant breeders. A number of the new agronomic characteristics ("input traits") foster higher and more stable yields, thus increasing crops' nutrient requirements.
For instance, the use of Bt genes to help plants resist lepidopterian larvae, such as the corn borer, results in healthier plants that are better able to absorb nutrients and therefore require greater applications. Resistance to biotic stresses also fosters greater yield stability and, therefore, optimal nutrient use efficiency for a given yield objective. Herbicide tolerance (HT) extends the rotation of crops with higher nutrient requirements. In 2003, Bt and/or HT varieties were grown on 67.6 Mha.
One area where the outcome of plant genetics has not yet been commercialized relates to the plant's ability to assimilate nutrients and moisture. Better understanding and use of this mechanism will make it possible to grow crops under different agroclimatic conditions as plants are bred for higher tolerance to drought, salinity, soil acidity and temperature extremes.
Generally speaking, regardless of the technology–plant genetics, soil conservation or precision farming–increased yield translates into higher nutrient demand.

increased yield = higher nutrient demand

An emerging trend is to use crops to produce specific molecules for industrial purposes. In this context, it is important to optimize production of the target molecule per unit of nutrient applied. The development of crop varieties to produce specific compounds (e.g. specific polymers for the plastics industry) will undoubtedly have a medium- to long-term influence on agricultural practices in general and fertilization methods in particular.

5.2. New crop traits with potential impact on fertilizer consumption

5.2.1. Higher bioavailable phosphorus content

Scientists are currently working to develop maize that produces its own phytase, an enzyme that increases the bioavailability of the phosphorus contained in the crop. This would reduce or even eliminate the need to supplement the diets of some animals with feed phosphates. In addition, phosphorus losses to the environment would be reduced through the use of such varieties. Similar work is also being carried out on soybean, rapeseed and alfalfa.
The first varieties with this trait are expected to be commercially released shortly.
As a result, fertilizer companies that provide feed grade phosphates may face a market loss. However, this innovation may well have a positive effect on phosphate fertilizer use, as manure from animals fed with low phytate grain should contain much less phosphorus thus necessitating greater use of manufactured phosphorus fertilizer.

5.2.2. Improved protein content

Researchers are also working on a feed maize with increased protein content that would lower requirements for soybean meal to supplement animal feed.
The first varieties with this characteristic should be available soon.
These varieties are expected to increase fertilizer nitrogen use to compensate for the higher nitrogen removals resulting from the production of more protein.

5.2.3. Improved content of essential amino acids

Another significant development in maize breeding is the development of varieties with increased levels of lysine and methionine, two essential amino acids that are often limiting factors in low-protein diets. These varieties would provide a much more balanced diet for certain animals because requirements for essential amino acids could be met through lower protein diets.
These varieties should be commercialized in a few years.

Table 3: Dominant crop/trait combinations in 2003

Crop	Trait	Area (Mha)	Transgenic area as % of global area
Soybean	Herbicide Tolerant	41.4	55
	Insect Resistance (*Bt*)	9.1	
Maize	*Bt* + Herbicide Tolerant	3.2	11
	Herbicide Tolerant	3.2	
	Insect Resistance (*B*t)	3.1	
Cotton	*Bt* + Herbicide Tolerant	2.6	21
	Herbicide Tolerant	1.5	
Rapeseed	Herbicide Tolerant	3.6	16

Source: James C., 2003

available were of agronomic interest, the so-called "input" traits. Herbicide-tolerant varieties were grown on 55.5 Mha and insect-resistant cultivars on 18.0 Mha, of which 5.8 Mha had both traits (Table 3). Varieties with other traits, such as virus resistance or gene hybridization, represented less than 0.1 Mha.

In 2003, C. James of the International Service for the Acquisition of Agri-biotech Applications (ISAAA) estimated the value of the genetically modified (GM) seed market to be approximately US$ 4.5 billion, or roughly 15 per cent of the value of the total world seed market.

Despite the multitude of technical, regulatory, economic, political, social and ethical factors that influence farmers' adoption of transgenic crops, we can safely state that the acreage of transgenic crops will grow steadily in a medium-term perspective. The development of output traits will probably have a positive impact on consumers' views about agricultural biotechnology, especially in Europe. In the meantime, developing countries that focus on food production for domestic consumption (e.g. China, India) are more likely to see a rapid adoption of transgenic crops than those countries that rely on exporting commodities to Europe.

4.2. Genomics

The genomic study of rice and maize is currently more developed than for any other crop. The full sequencing of the rice genome (japonica varieties) was completed by the International Rice Genome Sequencing Project (IRGSP) in November 2004. The sequencing of the maize genome is being carried out essentially by the private sector; therefore, it is difficult to assess its precise status.

Research is less advanced for crop dicots. However, the small genome of Arabidopsis, a weed from the crucifer family that is widely used as a model genetic species, was entirely sequenced in 2000. Because the genomes of all plant species are interrelated, genomics research on model plant species such as Arabidopsis can provide crucial information for research on crop species that that have more complex genomes. In the case of legumes, two model species for which there is a growing portfolio of genomics tools and techniques (Lotus japonicus and Medicago truncatula) are used.

Because bacterial genomes are typically smaller, an increasing number of important symbiotic bacteria are likely to have fully sequenced genomes in the near future.

Sequencing DNA is the "easy" part of genomics. Afterwards, scientists must accurately identify which genes correspond to various sequences and assign functions to each. This is called "functional genomics", and it typically involves disrupting each gene ("gene knockouts") to see how it affects the overall development of the plant.

The effects of knocking out most of the 20,000 or so genes in the Arabidopsis genome are already publicly available, and it is likely that similar efforts will be achieved for rice within the next decade. However, of the approximately 50,000 genes contained in rice, only a few hundred have so far been linked to a precise and verified function.

To further complicate the issue, transforming this information into agronomic advances requires subsequent breeding work in the field to study the expression of the gene when inserted into a given genotype within a specific environment, as well as to identify the optimal associations with other genes to enable the full expression of the desirable agronomic trait.

The task is daunting, but current progress is rapid, and it is reasonable to say that a growing

3.1. Increasing yields

Modern biotechnological tools allow faster breeding for traits, such as the yield potential, that are governed by multiple genes. Genomics and molecular-assisted breeding (see section 4.2) are particularly useful tools for such tasks.

Biotechnology also allows us to select for traits that were impossible or extremely difficult to transfer to certain crops through traditional breeding. This is the case for varieties that are tolerant to high levels of salinity, acidity or aluminium. Enhanced varieties have a much higher yield potential under these abiotic stress conditions, which currently affect a large share of the world's arable land.

3.2. Improving yield stability

Yield stability is at least as important as the genetic yield potential. In this domain, biotechnology has already made significant contributions, notably through insect-resistant (Bt genes) or herbicide-tolerant varieties. Virus-resistant papaya has also been developed. Biotechnology appears to be the only option for responding rapidly to the Fusarium wilt that is currently threatening the world's banana production.

Crop varieties that resist insects and diseases and that tolerate total herbicide treatments foster improved yield stability. This is critical from a plant nutrition stand point. If yields are stable, it makes it easier to project crop requirements and to limit potential nutrient losses to the environment.

3.3. Improving use/processing characteristics

In contrast to the above-mentioned traits that focus on a crop's field performance, transgenesis is likely to be increasingly used in the short to medium term to enhance crop use/processing characteristics or "output" traits that can:

- Remedy nutritional deficiencies by providing higher vitamin content (soybean, rapeseed, rice) and higher iron content (rice);
- Improve nutritional profiles through improved amino acid (maize, potato) and fatty acid (maize, soybean, rapeseed) composition;
- Assure more desirable processing properties, such as modified starch (maize, potato), higher solid content (potato) and improved fiber quality (cotton);
- Reduce post-harvest losses through delayed ripening (papaya) and improved storage longevity (potato).

4. Trends in green biotechnology development

4.1. Transgenesis

The first transgenic crop approved for cultivation was the "Flavr Savr" tomato in 1994 in the United States. Since then, farmers have adopted transgenic crops extremely rapidly. In 2003, the area cultivated with transgenic crops reached 67.7 million hectares (Mha), reflecting a 15 per cent annual growth rate (Table 1). Preliminary forecasts for 2004 indicate a further 20 per cent increase to 81.0 Mha.

Table 1: Evolution of area planted to transgenic crops

Year	Area (Mha)
1995	0
1996	1.7
1997	11.0
1998	27.8
1999	39.9
2000	44.2
2001	52.6
2002	58.7
2003	67.7
2004	81.0

Sources: James, C. 2003
James, C. 2004

In 2003, transgenic varieties were commercially planted in 18 countries. Five countries–Argentina, Brazil, Canada, China and the United States–accounted for 99 per cent of the total area (Table 2).

Table 2: Cultivation of transgenic crops in 2003, by country

Country	Area (Mha)
USA	42.8
Argentina	13.9
Canada	4.4
Brazil	3.0
China	2.8

Source: James, C. 2003

Soybean, maize, cotton and rapeseed are currently the main transgenic crops. In 2003, 55 per cent of the global soybean acreage was transgenic. This ratio was 21 per cent for cotton, 16 per cent for rapeseed and 11 per cent for maize (Table 3).

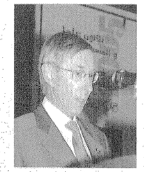
In 2003, the principal traits that were commercially

Biotechnology And Its Implications For The Fertilizer Industry

Mr. Luc Maene & Mr. Patrick Heffer
International Fertilizer Industry - IFA (France)

1. Introduction

With the notable exception of biological nitrogen fixation, private companies and public organizations involved in biotechnology research have this far shown little interest in crop nutrition. However, recent investments in the area of genomics research suggest that several innovations that are under development could affect the fertilizer industry.



Mr. Luc Maene

This paper reviews current and future biotechnological developments of potential interest to the fertilizer industry. It also makes a preliminary assessment of their likely influence on medium- to long-term fertilizer demand, which is relevant for investment decisions facing the fertilizer industry today. Finally, it highlights both the challenges and opportunities for the fertilizer industry emerging from this area of research and development (R&D).

A large share of biotechnology R&D activities takes place in the private sector, and many of the relevant advances are protected by trade secret. The analyses in this report are limited by the amount of information that is available to the public about the state of various innovations.

2. What is biotechnology?

Agricultural biotechnology (or green biotechnology) consists of a set of powerful and useful tools, subject to constant technical refinement, that have current or potential applications to improve crop production, food quality and safety, and environmental preservation.

Within the context of this paper, the term "biotechnology" is used in its narrow sense to refer to the modification and enhancement of living organisms at the molecular level.

Contrary to what is frequently believed, biotechnology is more than just transgenesis, the introduction of a gene or genes into cells that leads to the transmission of the input gene to successive generations. Genetically modified organisms (GMOs) are organisms that have been transformed by the insertion of one or more transgenes. Despite its high media profile, transgenesis may not be the most interesting biotechnology.

Other techniques that allow precise modification of the genome show great promise. Today, genomics–the science aimed at identifying and analyzing the entire set of genes of any organism–shows the most potential for enhancing agricultural production. Thanks to developments in DNA sequencing and gene-analysis techniques, genomics is advancing rapidly. Better understanding of the organization of a given genome will in future allow much greater precision in its enhancement.

Biotechnology can be applied to a wide range of organisms. With regard to crop nutrition, two categories of innovations are relevant: those that relate to plant characterisitcs and those that deal with microorganisms living in symbiosis with crops (e.g. Rhizobium, mycorrhizae) or involved in nutrient cycles (e.g. Nitrosomas, Nitrobacter).

3. Main objectives of biotechnology

The overarching objectives of agricultural biotechnology are to:

* accelerate the selection process;
* achieve new genetic combinations that are not possible through conventional breeding; and
* attain greater precision in the desired modifications of the genome.

These technologies make it possible to increase yields, improve yield stability and enhance the quality of harvested or processed products, among others.

Hamdallah, G. 2002. Fertilizers and their Potential Environmental Impact. AFA Technical Meeting held in Alexandria, July 2001.
Avery, D. 2000. "Crusading for the Future of Fertilizer Use." The Fertilizer Institute Outlook Conference, Alexandria, Virginia, U.S.A., November 13.
FAO. 1996. Food, Agriculture, and Food Security: Developments Since the World Food Conference and Prospects, World Food Summit document, Rome.
Food and Agriculture Organization (FAO). 1998. Guide to Efficient Plant Nutrition Management. An FAO/AGL Publication, Rome. (C.F. Ghassan Hamdallah (2002). Fertilizers and their Potential Environmental Impact. ????)
International Fertilizer Industry Association (IFA). 1998. The Fertilizer Industry, World Food Supplies and the Environment. An IFA/UNEP Publication, IFA, Paris.
International Fertilizer Industry Association (IFA). 1998a. Mineral Fertilizer Use and the Environment. An IFA/UNEP Publication, IFA, Paris.
Bashour, I. 2002. "Fertilizer types available in the near east markets and the potential for their use". Land and Water Resources Department, Faculty of Agricultural and Food Sciences, American University of Beirut, Beirut, Lebanon.
Abdel-Ghany M.B. 2003. "Environmental Impact of Chemical Fertilizers under Irrigated Conditions". Drainage Research Institute (DRI), Cairo, Egypt. CD18.
National Academy of Sciences (NAS). 1978. Scientific and Technical Assessment of Environmental pollutants. Nitrates: An Environmental Assessment. Washington, D.C, USA.
Poulisse, J. 2004. "Phosphate fertilizers in West Asia and North Africa - A future perspective", Land and Water Development Division, FAO.
World Meteorological Organization (1997). The world's water is there enough?. United Nations Educational, Scientific and Cultural Organization, WMO-No. 857, ISBN 92-63-10857-9.

Annex. Some Environmental Legislation Related to Fertilizer Use in the Region

Below is a brief on selected countries in the Region which introduced some laws and legislation related to fertilizer use.

BAHRAIN (1997): In 1996, the Amiri Decree-law No.21 was enacted with the establishment of an Environmental Affairs Agency (EAA), under the Ministry of Housing, Municipalities and Environment. This Law aims to protect the environment from the polluting sources and factors, and put an end to its deterioration by drawing up the required plans and policies to preserve it from harmful effects. Agricultural development has adopted a policy on the use of agricultural chemicals (fertilizers and pesticides) that is governed by the international regulations on the safe use depending on their chemical, natural and biological properties to curb environmental pollution and control its impact.

CYPRUS (1996): A set of new specific laws addressing environmental protection have been introduced. These laws, transposing EU legislation, are the following: the Control of Water Pollution Law; Atmospheric Pollution from Industrial Sources, Dangerous Substances, Agrochemicals, and Pollution of Public Space. Development Control Restrictions have been introduced to preserve flora and fauna from air and water pollution.

EGYPT (1997): Substantial efforts have been made to address pollution from domestic sewage. As such, fifty waste water treatment plants have been constructed throughout the country; another 50 are in various stages of completion. A national programme addressing pollution of the Nile from industrial, domestic and agricultural wastewater sources is being developed. The Government of Egypt has also increased fertilizer and pesticide prices to eliminate subsidies, leading to a more efficient use of the chemicals and thus reduced levels of pollution.

LEBANON (1998): In 1996, Ministry of Environment enacted emission and ambient quality standards which were not based on existing pollution levels in Lebanon.

QATAR (1997): In 1992, the protocol for marine environment protection from pollution resulting from land sources was approved. A Geographic Information System database of local industries/pollution point sources has been created.

SAUDI ARABIA (1998): A field study of toxic wastes and hazardous chemicals has been conducted for the elaboration of a national management plan. Standards for waste storage, transportation, and treatment have been formulated, and guidelines for pollution and control operations have been prepared. A draft has been prepared for the terms and conditions for utilization of certain waste components to foster private sector recycling and solid-waste reuse initiatives. A plan for management of coastal areas has been prepared. Agencies are implementing a protocol for protection of the marine environment against pollutants.

TUNISIA (1997): Draft law establishing a National Emergency Action Plan to combat Marine Pollution Accidents.

TURKEY (1997): In 1993, a Transboundary Air Pollution Station was established. The Government promotes exchange of information in this respect.

Essential Elements of Plant Nutrition

1. Principles of Plant Nutrition
2. Diagnosis of Crop Nutritional Status and Nutrient Deficiency Symptoms
3. Evaluation of Fertilizer Requirements
4. Methods of Fertilizer Use
5. Economics of Fertilizer Use
6. Plant Nutrition Related to Crop Health and Product Quality
7. Balanced Fertilization and the Integrated Plant Nutrition Management

Improving the Efficiency of Fertilizer Use

1.Under Calcareous and Gypsic Conditions
2.In Salt-affected Soils
1.Under Rain-fed Conditions
2.Under Irrigation Injection Systems (Fertigation)
3.In Highly Sandy Soils/Desert Farming
4.Under Protected Farming (green houses)
5.Irrigation with Treated Wastewater
6.Foliar Application of Fertilizers
7.Fertilizer Types and Formulations Available in the N. East Markets: Potential for Future Industry Development

6.2 Progress Achieved

A good deal of progress has been achieved towards the production of this important Manual, which is planned to be produced in three languages: Arabic, English and French.
Most of the specific chapters dealing with the two parts above are ready in a draft form and the editing /proof-reading process already started. It is expected that by early 2005, the English version would be ready and towards then to start the translation, editing, finalization and production processes.

6.3 An Example of Co-operation

It should be noted here that the production of this Manual will mark a good example of successful co-operation between AFA, IFA and FAO. These three Partners are real stake-holders those are keen to see an efficient and environmentally-safe use of Chemical Fertilizer Production. The AFA and IFA ledges, in addition to the expert-time and funding from FAO Regional Office worked in a good synergy to make this effort possible. Probably it's high time that we call upon all Chemical Fertilizer Producers to follow suit and try to enter in "joint programmes" with their local and regional partners who are involved in fertilizer use (including scientists, extentionists and marketing promoters, etc). Perhaps the style and format of the Manual will necessitate producing other formats of info notes (such as Popular Papers, Extension Leaflets, Video Tapes, Catalogs, Calendars, etc.).

7.Concluding Remarks

7.1 For achieving the main goal of using fertilizer in sustainable agriculture, the best available technology (BAT) is required by the fertilizer producers, as well as the adoption by farmers of best agricultural practices (BAP).

7.2 A set of guidelines is called for to ensure the proper formulation and usage of quality fertilizers in order to grasp the technical, environmental, agronomic and economic benefits of fertilizers for sustaining soil productivity.

7.3 Legislation and governmental control acts were called for in order that producers, as well as users of plant nutrient carriers all adhere to the set of fertilizer elements levels accepted, and more importantly to bear the environmental cost incurred.

7.4 Cooperation and effective linkages were needed to be established between all stakeholders, including farming community, research institutions, agricultural extension and training, international / regional institutes and organizations; as well as the manufacturing sector for furthering the goals of efficient and environment-friendly use of mineral fertilizers.

7.5 International Organizations/Centers and the fertilizer manufacturers are urged to assume an effective role in providing material support to governmental research/extension systems in order to enable them provide the farmers with the adequate knowledge on fertilizer use, for the maximum protection of the environment.

7.6 Chemical Fertilizers Producers are urged to explore possibilities for coping with the new emerging needs of farmers in the Region for producing some much needed types and formulations of fertilizers such as: completely- soluble; suspended; complex formulations with Minor Elements added, etc.

7.7 International and Regional Fertilizers Associations, like IFA and AFA are called upon to lead a diligent campaign for promoting chemical fertilizers use in the Region countries. This is to be along a parallel information and education campaign to elucidate the farming community and agricultural extentionists on the role of these fertilizers and the most appropriate methodologies for their use, timing, doses and application methods.

References

Alexandratos, N. (ed). 1995. World Agriculture: Towards 2010, an FAO Study, Wiley, New York.

would be removed by crops and the excess were either leached down to the drainage system, volatilized as gases, or join the shallow ground water-table, if excessive. Phosphorus would go through rapid conversion of its soluble forms to other less soluble ones in the soil (particularly in presence of carbonates); while potassium ions could be fixed in the soil clay.

The WHO in mid-1980's recommended a limit of 50 mg of NO3 and Zero NO2 per liter for drinking water. The US and other countries adopted a more strict limit of only10 mg /liter for the NO3 concentration (Hamdallah, 2002). However, the drinking water is least likely to be contaminated if one follows the appropriate management procedures or dispose off the wastes outside the farm site.

5.3 Comparative Effect of other Pollutants (industry, vehicles, organic fertilizers, etc.)

5.3.1 Potential Pollution from the Fertilizer Industry

Like any another chemical industry, Fertilizer Producers are increasingly practicing "environmental Codes" targeting safe and friendly processes". The application of Best Available Technologies (BAT) became now a matter of priority and it is much required if the product to meet the ISO standards International Fertilizers Industry Association gave an assessment to the general impact of fertilizer complexes on the environment (1998a). From their study, it can be deducted that although ammonia and other N-fertilizers produce CO2 and nitrous oxide; yet the portion produced from the fertilizer industry accounted to only 6% of man-made N2O emissions. This ought to be compared with about 50% that was coming from motor vehicles.

On the other hand, Sulphur compounds were emitted resulting mainly form the production of sulphuric acid and phosphate fertilizers, can be controlled through re-processing and filtration. The other major environmental concern was the waste phosphor-gypsum which needs to be taken care of.

In addition to the problem of phosho-gypsum waste, the disposal of other solid and liquid wastes was also a main environmental concern. The spent chemical catalysts, which were usually replaced every few years, had to be disposed off properly as they contained some oxides of metals and several chemicals. Other sulphur and sulphuric acid compounds produced could be used as soil amendment. Wastes requiring special treatment include wastewater, sludge, and scrubber and filter dust, filter bags and empty containers.

5.3.2 Farm Yard Manure: Is it a Source of Pollution?

In this regard, one has to look also into the potential environmental hazard that organic fertilizers (such as manure) coming out of farms or city wastes could pose. As a matter of fact, there were many governmental laws and legislation been enforced in several developed countries in Europe and North America that deal with Control of Nitrate coming out of chicken farms and dairy complexes. In the Netherlands, for example, the Government would give the Permit to establish a new chicken farm only after the Investor shows a feasible way how to dispose off the Chicken Manure produced.

Most manure was applied to land; however, there were problems of land ownership and transport. Manure sampling problems made it difficult to predict the environmental and agronomic effects of application. Manure could be an economic substitute for chemical fertilizer for haulage distances up to 15 km, if labour and non-cash costs were ignored. When crop residues were sparse, it may be difficult to incorporate manure and still meet conservation requirements. Manure could also cause environmental problems of nitrate contamination of groundwater, salinity, runoff and produce greenhouse gases. Some alternatives to land application were algae and fish production, re-feeding, pyrolysis and methane production through hydro-gasification. Little manure was used for any of these processes though. The main alternative composting, was increasingly being used. Management and government policy along with research needs to reduce environmental effects were needed.

6. The Near East Fertilizer Use Manual

6.1 Why a New Manual?

The World Fertilizer Use Manual produced by IFA is a comprehensive reference that acquired a great deal of acceptance and world-wide use by many professional and agricultural extentionists. It was observed, however, that the Near East agricultural production conditions do have their own specifities. Adding several chapters, of high relevance to the Region, was a necessity to make the Manual of higher value and benefit to the farmers and to soil and plant nutrition specialists, as well. The crop-wise fertilizer recommendation would include latest recommended rates of fertilizer by benefiting from experiences of a good group of Soil and Plant Nutrition Scientists from the Region.

The following chapters were much needed to be added:

in the production of foliar fertilizers. Placement of urea with the seeds at planting (by seed drill) is not recommended. In the Jordan Valley, heavy P-fertilization led to some dramatic P build-up in the soil profiles, which gave a vivid example for the implication of fertilizer misuse (Khattari, 1999).

4.2 The Overall NPK Balance

In the Near Eastern countries, the quantity of nutrients available for recycling via plant and animal residues (manure, wastes, etc) is not sufficient to compensate for the amounts removed in agricultural products, even in low-productivity situations. Consequently, the use of mineral fertilizers is required for good production and quality of products. Therefore, the increased use of fertilizer in recent decades (from 0.5 million tons in 1960 to about 6.5 million tons of NPK nutrients in 2000) can be credited with improving food quality as well as its quantity.

In spite of those high fertilizer use rates in some areas; the fertilization programmes in the Region is far from adequate or sound. Two main deficiencies exist in these programmes:: i) the imbalance proportions of the major (NPK) and minor (Fe, Cu, ….) elements added; and ii) the fertilizer formulations chosen and the timing of their application are not adequate. The NPK elements added, in general, run around the ratio of 4:1:0.5; while a more appropriate ratios ought to be close to 5:2:1. Minor elements of Fe, Cu, Zn, Mn, and the secondary elements like S, Mg, are seldom taken into account, except perhaps when a "deficiency symptom" strikes. Even when dealing with the three main fertilizer elements, potassium is given the least consideration. Some believe that most of the soils in the Region contain ample K amounts (which might be true but NOT forever and under the intensive cropping). Farmers also substitute for K when found expensive, by the usually cheaper N fertilizer.

The use of balanced fertilization programmes leads to the production of more economical and nutritious foods. Health problems don't occur because of fertilization as some of the public think; on the contrary, they occur when needed elements are deficient in the soil and are not provided through fertilizer applications.

In several European countries, Governments require that each farmer should keep a Fertilizer Balance Sheet for the farming operation, stating the Elements In and Elements Out.

5. Environmental Impact of Chemical Fertilizers

5.1 Overall Impact on Soil and Water Resources

Most of the countries in the Near East have achieved rapid development of the agricultural sector, mainly through intensification, in an attempt to attain food security. From an environmental point of view, potential hazards from intensive use of fertilizers are related to large losses of nutrients, especially Nitrogen, through deep percolation, surface runoff, and volatilization. Given the fact stated above about the relatively low Chemical fertilizer use rates; it is then **so unlikely that we encounter pollution dangers due to the low rates in the Region.** Water pollution can come from: untreated sewage, industrial discharges, leakage from oil storage tanks, mine drainage and leaching from mines waste, and drainage from the residues of agricultural fertilizers and pesticides. Water pollution varies in its severity from one region to the next depending on the density of urban development, agricultural and industrial practices and presence or absence of systems for collecting and treating the waste waters (WMO, 1997).

Regional fertilizer consumption and the annual growth rates (%)

Consumption	1961-70	1971-80	1981-90	1991-00
N	12	9	4	3
P_2O_5	13	10	4	-2
K_2O	10	3	5	8
Total fertilizer	12	9	4	2
Million t nutrients	0.5-1.6	1.6-3.6	3.6-5.5	5.5-6.4

Surface and especially groundwater pollution with nitrates (NO3), from nitrogen fertilizers and manure, is another risk factor. Although various incidents of high concentrates of NO3 are reported in several countries of the Region, but there is lack of comprehensive assessment/studies on the extent of pollution (Bashour, 2002).

For animal organic manure, wastewater sludge and industrial wastes, many countries have developed sets of guidelines for the maximum allowable limits that match the loading capacity of the soil (Hamdallah, 2002).

5.2 Impact on Drinking Water Quality

The Nitrate-nitrogen (NO3 levels exceeding the public health standard of 10 mg/l or ppm)* have been found in drinking water wells. The other major components of commercial fertilizers, phosphorus and potassium, are not generally a groundwater contamination concern but can be damaging to wildlife when found in surface waters.

Nitrogen added to the soil through fertilizers

Persons mainly subsisting on such Vegetables had in-adequate Mo intake. As this micro-element (in addition to Fluorine) is essential for strong teeth; therefore some tested school children teeth were less healthy and more susceptible to the incidence of caries (quoted by Finck, 1982).

3.4.2 Impacts on Crop Produce and Nutritive Value

The crucial problem with food quality is whether the food produced with conventional fertilization (organic-based fertilizers) is always higher in quality (both in nutritive value and commercial quality). Since the use of fertilizers becomes a reality and necessity in crop production; the challenge then is to prove that the increased produce is not on the expense of quality. This concept also stems from the "Value of Naturalism; what is natural is usually good; and what is un-natural and artificial is not good". This argument was behind the bias against the use of synthetic chemical fertilizers, and even to group fertilizers with other agricultural chemicals (pesticides which are basically poisons to animals and humans). This led to some public confusion and even certain governmental legislation to discourage or limit the use of commercial mineral fertilizers. This argument could be faced with the fact that both phosphate and potassic fertilizers come from "natural deposits", which are only slightly processed to produce them in a more available chemical form to be absorbed by plants. It should be noted here that plants don't prefer their nutrient, say nitrate, to come from an organic source rather than a chemical one, as other forms of N are converted to NO3 when absorbed by plants.

Organic Agriculture.

The new trend of promoting "Organic Agriculture" is claiming a considerable deal of acceptance and recognition (including also by FAO). Of course, organic food products are marketed easily and at higher prices and many countries in the Region started developing plans to expand this approach, with real big and sometimes exaggerated hopes and expectations. No doubt that Organic Products attract customers and bring beneficial return to growers; yet this mode of agricultural production can't possibly be a corner-stone for crop production. It hardly represents 2% out of the overall production in American agriculture; therefore it can't be a strategy for agriculture development, in the general sense. Its great potential can be attached to some selected high-vale cash fruits and vegetables and perhaps medicinal and aromatic plant products.

4. Fertilizer Use Rates, Trends and the NPK Balance

4.1 Fertilizer Use Rates and Trends

4.1.1 Use Rates

The fertilizer consumption pattern took an escalating path over the previous three decades due to agricultural intensification and horizontal growth in the farmed areas, and in some countries due to the liberal subsidies that were offered to fertilizer purchase. The overall regional rate of fertilizer use per unit area is 115 kg/ha in 1998 and varies between two extremes of as low as 2 kg/ha NPK in Sudan to 390 kg/ha, in Egypt, or even much more for UAE. The high use rates in the GCC countries could be due to the spread of greenhouse protected farming, and also encouraged by the governmental favorable fertilizer subsidy in some countries. The overall low rates of fertilizer use in the Region warrants working on promoting their use more, but with the recommended rates and application methods suitable for each crop and soil situation.

4.1.2 Use Trends

It was estimated that crops in the Region could remove annually on average some 4.4 million tons of nitrogen and 1.7 million tons of phosphate from agricultural lands (1997-99). Farmers applied 4.4 million tons of nitrogen and 1.6 million tons of phosphate fertilizer nutrients to produce those crops. Although the Region in total would seem to approximately replace the nitrogen and phosphates removed by crops; the number of farmers that apply phosphate fertilizer in Afghanistan would need to increase 150 times to compensate for the nutrients removed, and in Yemen 3 times. Also the number of phosphate fertilizer using farmers in Jordan and Egypt would need to increase 3 to 2 times respectively, to compensate for nutrients removed.

Evidently under irrigated farming, the risk of crop failure is low and the associated probability of fertilizer use profitability is high. Farmers in Iraq, Saudi Arabia, Morocco, and Libya, who apply phosphate fertilizers, would benefit on the other hand when they were to apply more nitrogen and potassium fertilizers (Poulisse, 2004).

Most farmers in the Near East are more convinced of the efficiency of urea. Its relative high concentration of N compared to other solid N fertilizers makes its usage more economical and therefore, it is expected that the use of urea will become more popular on the account of ammonium sulfates and nitrates. The quality of urea produced in the Region now is of high grade, much better than the past, especially that the level of biuret is less than 1%. Fertilizer formulators should use urea containing less than 0.25% biuret

$ 6/ha for each 1 ppm of increased soil-test K.

3.3 Preserving Soil Fertility and Productivity

3.3.1 An Overall Impact

To maintain soil fertility and productivity and to prevent land degradation; plant nutrients taken up by crops must be replenished through the application of fertilizers. The use of fertilizer results in many benefits to producers, consumers, and the environment, starting with increased agricultural outputs (mainly food and fiber) to contributing to soil organic matter maintenance, water-holding capacity, biological nitrogen fixation, soil erosion control, other physical and chemical properties, and less extensive land use.

Perhaps one of the greatest implications of the Green Revolution is that it saved 426 million ha of land from clearing. Without the higher yield of modern farming, more than 90% of the world's wildlife habitats would have had to be plowed down. Thus, high- yielding seed varieties, fertilizers (particularly nitrogen), and agricultural inputs are allowing us to keep 25% of the planet's land in forests (Avery, 2000).

These benefits contribute also to the enhanced agricultural growth and agribusiness activities, which are catalysts for broadly based economic growth and development in most developed and developing economies; agriculture's links to the non-farm economy generate considerable employment, income, and growth in the rest of the economy.

3.3.2 The IPNS Concept

Since the mid 1980s, FAO has been promoting this concept of Integrated Plant Nutrition System (IPNS) which aimed to maintain and enhance the soil productivity through a balanced use of mineral fertilizers combined with organic plant nutrient sources, including biological N fixation. This approach could be extended from the well-controlled research plots, to the farm level, and even at the district/village or region level.

For the successful application of the IPNS approach, other integrated systems ought to be also adopted such as the Best Agricultural Practices (BAP)-also called best management practices (BMP)-by farmers. An Integrated Crop Management would address the basic farming issues such as: crop rotation, crop variety selection, cultural practices, precise use of fertilizers, as well as crop protection measures and products that also could protect the environment. The utilization of automated land evaluation systems and agro-ecological zoning also could contribute to the better mastering of the fertilization process from all its dimensions. These various integrated systems should be looked upon to have synergetic effect to the IPNS concept and for ensuring its fruitful implementation. When best agricultural practices were followed by farmers and best available technology (BAT) were adopted by manufactures; then the optimum agronomic, economic, and environmental conditions could be maximized from the fertilizers use. In many countries, Decision Support Systems (DSS) were developed to assist in the efficient control of N fertilizers requirements of the crops with sound environmental protection.

3.4 Plant, Animal and Human Nutrients Interactions

3.4.1 An Intricate Relationship

Fertilizer use <u>must</u> also take into account the nutritional requirements of animals and human beings consuming the crops. The food chain issue here manifests itself in a clear manner where ample evidence exists pointing at some definite impact on human health due to nutrition deficiency in plants, particularly with Zinc (Zn). Therefore, it could be necessary or advisable to supply – for the benefit of grazing animals – increased amounts of elements (mainly minor elements) which are not essential to the plants, such as Na, Se and Co (Finck, 2000).

Since plants constitute the basic feed item for animals; it follows that a healthy and balanced plant produce, in terms of its nutrients content and quality, would make it an appropriate healthy item to meet the animal nutrient requirements. Some dramatic cases of deficient animal feed were responsible for some ailing animals which were difficult to relate to any known animal disease. The Selenium (Se) deficiency in forage crops grown on pure sandy soils in the Kafra Project in Libya in the late 1970's was a puzzle to solve until it was investigated and found to be stemmed from the low Se content in the forage fed to animals, which was due to the low Se content in those desert sandy soils.

Due to the fact that food quality and safety had its direct impact on human nutrition and health, particularly in children; this issue became a real concern by many countries. The saying that "Agriculture is the Guardian of Health" is a correct one, to the extent that food quality – being the basis of human and animal health- depends on the correct use of crop production inputs, specially fertilizers.

Another good example showing the Chain Influence (soil-plant-man) came from New Zealand; when certain soils were poor in available Mo (molybdenum), so naturally the vegetables grown on those soils contained too little Mo.

require a 30% increase in *fertilizer use*. This increased fertilizer requirement has to be balanced against the environmental and human health concerns stemming from intensive fertilizer applications, particularly in industrialized countries. Since much of the population growth is expected to occur in the cities of the developing countries (United Nations, 1998), patterns of food demand will change significantly as a result of urbanization and income growth. Pinstrup-Anderson (1976) estimated that fertilizer accounted for 55%-57% of the rise in average yields per hectare and 30%-31% of the total increase in production. Consequently, cereal production and fertilizer use are closely associated in developing countries (Figure below) where cereal production increased to 1.2 billion tons in 2000 from a base of 400 million tons in 1961. During this period, fertilizer use increased by more than 2900% to the present level of 91 million tons nutrients, which corresponds to about 66% of the total world nutrient consumption.

The International Food Policy Research Institute (IFPRI) showed that, between 1995 and 2020, *the developing countries will account for more than 85% of the increase in global demand for cereals* and meat and more than 97% of the increase in demand for roots and tubers. In response to the strong demand for meat products, demand for cereal, particularly maize, for feeding livestock will double in developing countries.

3. Role of Chemical Fertilizers

3.1 Fertilizers: An Essential Input

Normal Borlaug, a prominent agriculturist and a Nobel Prize winner, addressed a meeting of the Overseas Development Institute by saying: "some people say that Africa's food problem can be solved without the application of chemical fertilizers; they are dreaming. It is not possible". He continued that the environmentalists advocating traditional farming methods failed to recognize the rapid growth in population expected in the Continent. The Sub-Saharan Africa has the lowest use of fertilizer in the world and soil nutrients were so low that other efforts to raise crop productivity would not be successful until fertility is improved. (US Financial Times, 1995).

3.2 Direct Impact on Crop Yield Increase: The Crop Index

Fertilizers (chemical or organic) are necessary since "hardly any soil can supply all the nutrients in sufficient amounts to meet the demands of high-yielding crops". Crops do differ in their response to the effect of fertilizer addition.

The Table below summarizes the average fertilizer response by crops based on the FAO Fertilizer Programme accumulated data (1961-1989) collected from over 40,000 experiments, world-wide.

Figures in the above Table show that for 1 kg of (N, P2O5, K2O) added, there was an increase of yield for all cereals by 8-12 Kg, roots and tubers by 32-48 kg, oil cops by 4-8 kg, and the lowest was 2-5 kg increase for pulses. It should be noted that these figures indicate the most frequent ranges recorded from the tens of thousands experiments that were analyzed during the FAO Fertilizer Programme, between 1961-1989. These ranges of yield growth were often exceeded and figures as high as 40 kg of yield increase were reported for wheat and rice, in several countries.

One other fact which lends itself to the above is related to the role of nutrient interaction in providing benefits beyond that possible impact by any one nutrient. In a trial on corn in Ohio, USA in 1999; the study indicated a calculated figure of

Crop	Results evaluated	Most frequent range of Productivity Index*
Wheat	12,500	4-8
Rice	22,800	8-12
Maize	24,700	8-12
Millets	3,400	4-8
Sorghum	5,600	6-8
All cereals	69,000	8-12
Root and tuber crops	7,000	32-48
Pulses	5,400	2-5
Oil crops	11,000	4-8
Cotton	7,600	3-6

The productivity Index is the amount of additional crop produced per kg of plant nutrient applied (FAO, 1989).

production is around 0.20 ha /capita for the Near East Region. This is generally lower than the global average of 0.24 ha/capita. It shows a great disparity among the Region countries and it ranges from 0.5 ha in some countries to less than 0.002 ha in some GCC states. Coupled with land limitation is the water shortage where some 16 countries are below the Water Deficiency Level of 500 M3/cpita of Annual Renewable Water Resources. Limited lands available for agricultural expansion led to serious consequences when farming marginal lands resulting in the Land Degradation which progressed in a rather alarming scale (examples include Sudan and Syria). The other danger to agricultural lands came from the fast urbanization development move and its encroaching of prime agriculture lands. Examples are clear around almost all capitals and urban centers of the Region countries. Other tough competition on land and water resources exists whereby Agriculture (as the main water consumer for irrigation) is in a race with other economic sectors like: Urban, Industry and Tourism.

2.3 Fighting Poverty as one of the Millennium Development Goals

It should be pointed out that the World Community started recognizing "Poverty" as one of the main global problems that needs serious attention, and therefore, listed it as one of the Millennium Development Goals (MDG). The link between poverty and natural resource management requires emphasis. Without alleviation of rural poverty among small scale farmers; there can be little expectation of sound natural resource management. We are faced with a situation in which better-off persons can consider the effect of other humans on the environment. It is necessary for all who share such concerns to also acknowledge the widerhuman plight which affects the environment. It was observed that by the year 2020, some 80 percent of the population will live in Least Developed Countries (LDC). Estimates of poverty in the developing world showed that adequate investment in poverty alleviation and the agricultural improvement through education and research should be the primary objectives of international development.

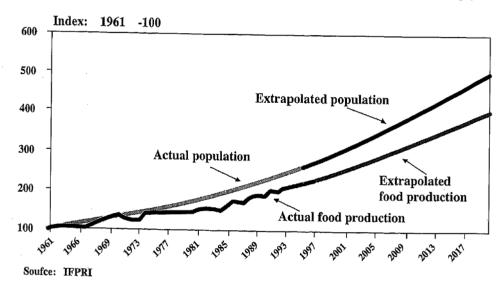
2.4 Modify the Environment

Intensive agricultural systems, and irrigation-based agriculture in less developed countries, provide a changing environment that agriculture must adapt to. It follows that the more intensive the production system is; the greater the potential to "Modify the Environment."

It is naive to assume that all fertilizers are the same or indeed that fertilizers and pesticides are of equal potential danger to the environment or humans. It is likewise unfair to criticize the use of pesticides in circumstances where their use is declining as a result of innovative scientific development of insect resistance in new plant varieties, and the increased adoption of the Integrated Pest Management (IPM approach).

2.5 More Food: How and by Whom?

Fertilizer has played an important role in increased crop production, especially in cereal yields, and will continue to be an essential component to feed the expanding world population. During the next three decades, world population will increase by another 2 billion. These increased demands will require the world's farmers to produce 50% more cereals in 2030. Because of the need to preserve the forests and wildlife habitat, most of the increase in cereal production will have to come from the existing land under cultivation. This can be achieved only through improvements in crop yield, which *would*



Soufce: IFPRI

Agricultural commodity demand - and domestic production growth (WFS goal) 1998 to 2015,%/ year

	Demand Growth	Production Growth
Yemen	4.5	4.1 (5.0)
Jordan	3.5	3.9 (4.1)
Iraq	4.7	3.8 (3.8)
Saudi Arabia	3.8	3.4 (3.5)
Afghanistan	3.7	3.0 (4.1)
Algeria	2.5	2.7 (2.7)
Libya	2.6	2.7 (2.8)
Syria	2.9	2.4 (2.6)
Near East Other	1.0	2.2 (2.2)
Morocco	2.4	2.2 (2.4)
Egypt	2.2	2.1 (2.4)
Lebanon	1.9	2.0 (2.3)
Iran	2.1	2.0 (2.2)
Tunisia	1.7	1.9 (2.0)
Turkey	1.6	1.6 (1.8)

Cereals self-sufficiency data (%)

	1979/81	1997/99	2015
Afghanistan	98	94	66
Algeria	40	21	22
Egypt	55	69	74
Iran	74	69	63
Iraq	42	40	26
Jordan	16	4	3
Lebanon	7	10	9
Libya	23	10	8
Morocco	60	55	52
Near East Other	10	4	3
Saudi Arabia	11	23	14
Syria	93	77	70
Tunisia	58	45	43
Turkey	104	97	94
Yemen	64	24	15

The Near East Region (embracing 32 countries from West Asia to North Africa) could be quite a self-secure in terms of Food, if its huge available natural resources could be fully utilized. The Region countries have to raise food production, by an average of 2.1% per annum, if they are to attain the objectives of the WFS Summit goals of halving the hungry people by 2015.

Clear disparity among countries exists, so production in Turkey needs to increase only by 1.6% per annum, but it should be over 4% per annum in Yemen. Most countries need to increase domestic production between 2 and 4% per annum. These projected growth rates look high, though are not unprecedented. It should be kept in mind that lower growth rates would mean that imports would have to increase. In spite the positive impacts of fertilizer for increasing food production; there are still 840 million people in the developing countries who lack adequate access to food (FAO, 1996).

2. Food Production Constraints in the Region

2.1 The Cereal Gap

The Region's ability to feed itself has been declining over the last 25 years, as domestic production increases did not match increased demand in almost all countries. The Region's self-sufficiency ratios for cereals (including milled rice) show that only Turkey was a cereals exporting country in the late 70's and all other countries relied on cereal imports to a large degree, except perhaps Syria. The 2015 projections suggest that all countries in the Region will rely on cereals imports to a much larger degree than 25 years ago. A major exception is Egypt, the most populous country in the Region that succeeded in reducing its cereals import dependency. The country announced recently that a key element in its cereal production is to "reduce imports of wheat, currently about 55% of its needs".

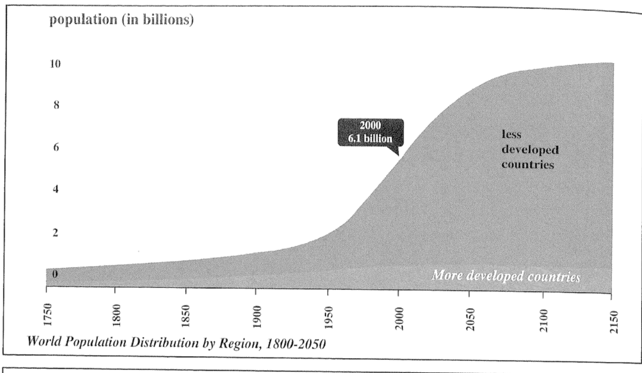
Increased demand for animal feed amplifies increasing the Region's cereal import dependency. Human cereals consumption accounts for some 60% of all cereals and animal feed for 30%. The per capita consumption of meats, milk and eggs will increase since per capita income in the Region increases (World Bank projections). Substantial cereal imports will have a significant impact on domestic commodity price formation and, as such, on the profitability of fertilizer application on crops.

Annual agricultural production growth will need to accelerate and sustained in particular in Yemen, Jordan, Afghanistan and Saudi Arabia. Yemen will need to produce 130 % more food, Jordan and Iraq some 100% over a rather short period of 15 years. Other countries will need to increase total agricultural output in the range from 35% in Turkey to 88% in Iraq.

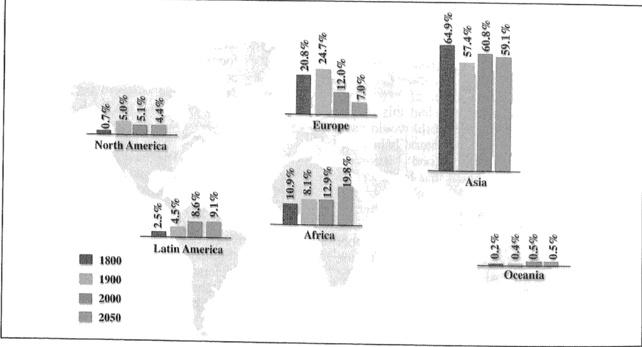
2.2 Land and Water Limitations

The current arable lands available for agricultural





World Population Distribution by Region, 1800-2050



estimated that global food production is sufficient to meet the needs of all world population. Food and Agriculture Organization (FAO) estimates that the average daily per capita energy supply worldwide increased from less than 2,300 calories in 1961 to 2,720 calories in 1990-1992 and projected to increase to 2,900 calories by 2010.

It was estimated that at least 840 million people in the developing world in the 1990s did not have adequate access to sufficient food. This figure represents about 21% of the population in the developing world. Although 840 million is still very high, it does represent a considerable decline the early 1970s. FAO is still committed and diligently working, with member countries, for the reduction by half of hungry people by 2015 as per the goals of the 1996 World Food Summit.

1.2.2A Regional Level

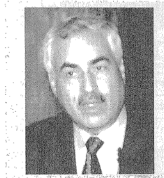
The Arab Region, as well as the world community, has to face the challenges of the new millennium. The responsibility to make changes does not rely on the governments alone, as the Civil Society institutions have a major role to play. Clear roles, mandates of Governments would be to facilitate efficient production and distribution of agricultural products by the Private Sector.

Role of Chemical Fertilizers in Fighting World Hunger

Dr. Ghassan Hamdallah, Sr. Soils & Fertilizer Officer
Fao / Regional Office - Cairo - Egypt

1. Introduction

The limitations on arable lands and renewable water resources in many parts of the world, especially in the Near East, drove the agricultural expansion to go vertical. Fertilizer role for sustainable agriculture cannot be over-emphasized. In 1960, farmers harvested about 1.4 billion ha and by the 1990s, this area was still less than 1.5 billion ha, yet food and feed supplies had been doubled in the interim (IFA, 1998). The impact of fertilizers use is evident because had this output increase has not happened, the world would have lost more than 2.6 billion ha of natural habitat, in addition to incalculable food shortage consequences. FAO maintained that fertilizer use was responsible for about 55% of the growth achieved in yield increase in developing countries during the past three decades (FAO, 1998). The World Food Summit, held in Rome in November 1996, brought the food problem in front of the highest level of global political forum. The pivotal role of fertilizes in agriculture could be visualized from the estimate "that about two-thirds of the needed increase in crop production in developing countries, will have to come from yield increases on land already under cultivation" (Alexandratos, 1995). The demand-driven agricultural activities led by intensive cropping, characterized by heavy mineral fertilizers use, resulted in a rising concern over the potential pollution of the soil-water-plant systems.



Dr. Ghassan Hamdallah

We are faced with two distinct rival schools of thought: the first is calling for more agricultural chemicals to be employed for maximum agric outputs; while the other (supported by the influential groups of environmentalists) is calling for the least use of these chemicals. During recent years the move gained a good deal of attention in promoting the "Organic Farming", which only constitutes about 2% of global agriculture. The more recent orientation now (and FAO is subscribing to it) is the call for GAP (Good Agricultural Practices) which is less stringent and more accommodating than "the Organic" requirements.

Evidently the safe and efficient use of all agricultural chemicals (including fertilizers) should always be kept in focus. This will succeed when the combined adoption of GAP (by farmers and users) and the (Best Available Technology) BAT is used by manufacturers).

1.1 The Population Increase Issue

In 2000, the world had 6.1 billion human inhabitants. This number could rise to more than 9 billion in the next 50 years. Following the start of the Industrial Revolution in the 18th century, living standards rose and widespread famines and epidemics diminished in many regions, which led to an accelerated population growth. The population climbed to about 760 million in 1750 and reached 1 billion around 1800 (see chart below).

The population of the Arab League's 21 members totaled around 281 million at the end of 2000 compared with 248 million in 1995 and 190 million in 1985. Population in the Arab Region is expected to reach 459 million by 2020. The population growth rates in several countries are high (2-3 % annually), but are relatively slow in some countries like UAE, Qatar and five others, according to the United Nations.

1.2 Food Production Facing the World Hunger: The Challenge

1.2.1 Global Level

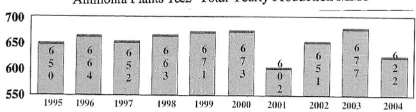
The overall rate of food production in the world has been faster than population growth. It is

Plants Production

Ammonia

Ammonia manufacturing depends on the natural gas which comes from SOC'S gas fields. Ammonia is used specially in manufacturing nitrogen fertilizers, one of which is the urea fertilizer. Most of the production of the two plants is used in making urea fertilizer while the rest is exported.

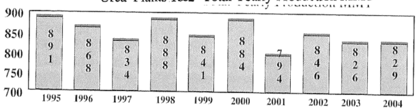




Urea

Urea is manufactured from ammonia, which comes from SOC 's two ammonia plants. The quality of urea is considered to be the best nitrogen fertilizer for agricultural purposes. A large proportion of the production from the two urea plants is exported in bulk form or packed in 50kg bags.

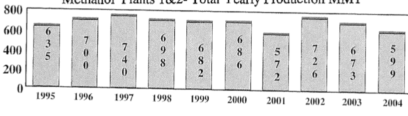
Urea Plants 1&2- Total Yearly Production MMT



Methanol

Methanol is produced by using natural gas from SOC's gas fields as a raw material. This product is vital for the production of many chemical compounds.

Methanol Plants 1&2- Total Yearly Production MMT



SOC Brega Port, Marine and Utility Facilities

Brega port is considered to be one of the important oil ports in Libya. The port is actually divided into two ports; one for oil, LNG and other export products, the other eastern port is for the exporting of petrochemical products. The eastern port comprises of important facilities such as single and double berthing docks with various depths, cargo docks, jetting and mooring for the produced and manufactured products of SOC. The company has dedicated departments which are responsible for the efficient operation of the port. These facilities include a power generating station of design capacity 65 MW and a water desalination plant with a total production capacity of 700 cubic meters/hour. Other necessary utilities include laboratories, fire stations, maintenance workshops and storing and shipping facilities.

Petrochemical Products - Storage Tanks and Capacities

There are 3 huge stores for storing bulk urea providing a total storage capacity of 120,000 metric tons in an area of 32.800 sq. meters. In addition there is also provision for storing bagged urea which has a built area of 14,100 sq. meters.

Product	No. of Tanks	Tank Capacity	Total Storage Capacity
Methanol	4	15 MMT	60 MMT
Ammonia	2	-	40 MMT
Urea	3	-	120 MMT

There are two tanks for storing ammonia with a combined storage capacity of 40,000 metric tons plus four tanks for methanol with a total storage capacity of 60,000 metric tons.

The total amount of petrochemical products that were exported to foreign markets during the year 2004 was: 599.956 MT of Methanol, 137,638 MT of Ammonia and 758,022 MT of Urea.

Complete Formaldehyde Production Plant

SOC has carried out a feasibility study and is continuing to assess and review the construction of 60 metric tons per day formaldehyde plant. The plant would be designed to produce aqueous formaldehyde solution; this would be used for urea conditioning as a replacement to currently using HMT. Prime reason for replacing the use of HMT is the elimination of manual handling involved thus focusing on the safety, health and environmental issues related to the use of HMT. The construction of the formaldehyde plant will be an added value to existing products because the feedstock is methanol. It is proposed that the plant will produce either aqueous formaldehyde (AF-37) or urea formaldehyde concentrate (UFC, i.e. UF-85).

DAP Project

A feasibility study has been completed for the construction of a Di-Ammonium Phosphate fertilizer plant with a design capacity of 1000 metric tons per day for the purpose of providing the local market requirements and to utilize the available utilities of the petrochemical manufacturing complex and the raw materials manufactured.

Third Methanol Plant

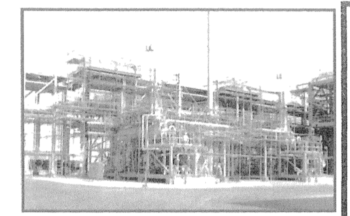
Study of constructing 1000 metric tons per day Methanol Plant, so as to improve the manufacturing complex economics and optimize utilization of available utilities.

Granular Urea

Studyof producing granular urea instead of prilled urea due to the increase in world demand and price of granular urea.

The company's interests are also shown by providing training to its Libyan employees in all aspects of production and manufacturing of its petrochemical products. Total number of employees is 6,700. 88% of them being Libyans. The petrochemical complex has a manpower of 756 employees, 82% being Libyans.





Sirte Oil Company for Production, Manufacturing of Oil & Gas

Introduction

Sirte Oil Company (SOC) for Production, Manufacturing of Oil and Gas is one of the largest operating subsidiaries of the National Oil Corporation (NOC) of Libya. The company is located in Marsa El Brega which is 220 km west of Benghazi.

SOC's diverse operations include the exploration for, production, manufacturing of oil and gas; and the transmission and supply of natural gas to local consumers through the coastal pipeline.

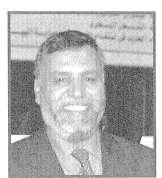
At the time of establishment of the company in 1981, the company's activities were limited to exploration and production of oil and gas from the fields plus LNG production and oil refining activities.

In 1991, the National Petrochemical Company was merged with SOC to form Sirte Oil Company for Production, Manufacturing of Oil and Gas. In addition, the Gas Supply Projects was included in SOC. Thus the manufacturing activity began to include refining of crude oil, liquefaction of natural gas (LNG) and the manufacturing of petrochemicals such as Methanol, Ammonia and Urea, and the supplying of natural gas to local consumers through the coastal pipeline.

SOC- Petrochemical Complex

Sirte Oil Company's (SOC) petrochemical complex contains six productive plants: two for the production of Methanol, two for the production of Ammonia and the other two for the production of prilled Urea.

In 1978 the industrial complex production started with the operation of Methanol-1 and Ammonia-1 plants and in 1981 Urea-1 plant was commissioned. In 1982 Ammonia-2 plant was operational thereafter Urea-2 plant was added to the complex in 1984. The current complex set-up was completed when Methanol-2 plant started production in 1985.



Eng. Ahmed H. Aoun

The designed production capacity for each plant is 1000 metric tons per day except Urea-2 which has a production capacity of 1750 metric tons per day and Ammonia-2 production capacity was increased to 1200 metric tons per day in 1992.

The operating philosophy of the complex including its' utilIties such as the power station, desalination plant and the storing and shipping facilities is the continuous operation 24 hours/day and 365 days/year in accordance to the shift-working system. This is dependent on the planned maintenance system for the plants and their utilities which include but are not limited to the following:-

- Preventive maintenance programs for all the equipment in accordance to the manufacturers instructions.
- Testing all the equipment and pipelines and theraafter implementing all the instructions resulted from the performed tests. SOC itself executes most of the maintenance activities.
- Annual turnaround for each plant has been performed in the past but during the past four years in accordance to the practices gained and more economical concepts depending on operational experience as well as the technical advices of the manufacturers this has resulted in having one turnaround for the duration of thirty-five days every two years for each plant.

Petrochemical Plants-Design Capacity and Manufacturing Technology Implemented

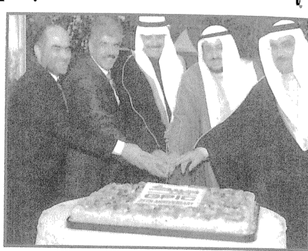
Plant	Designed Production Capacity MT/D	Raw Materials & Technology Implemented	Year of Operation
Ammonia-1	1200	Natural Gas, Water & Air (Haper Process-Uhde Company)	1978
Ammonia-2	1000	Natural Gas (Topsoe Company Procedure)	1982
Urea-1	1000	Ammonia + CO2 (Stami-Carbon Manufacturing)	1981
Urea-2	1750	Same as Urea-1	1984
Methanol-1	1000	Natural Gas & Water (Steam Reforming &Manufacturing of Methanol by ICI procedure of low pressure)	1978
Methanol-2	1000	Same as Methanol-1	1985

Gulf Petrochemical Industries Company Marks its 25th Anniversary

Under the patronage of HE Shaikh Isa bin Ali AI Khalifa, Minister of Oil and GPIC Chairman, the company marked its 25th anniversary at a ceremony held at Ritz Carlton Hotel on Tuesday 28 December 2004.

Mr Nasser Ahmed AI Sayyari, Deputy Chairman opened the event lauding the company's achievements in all fields and its unique position, demonstrating the spirit of co-operation in all respects

linking the GCC states. Mr. Mohamed Abdul Rahman Al-Terkait, the Managing Director praised the team spirit that is held in such high regard and noted management's continued rationalisation of expenditure and cost reduction which led tonet profits totalling more than US$ 90 million.





GPIC Celebrates Health, Safety and Environment Week

GPIC celebrated Safety, Health and Environment Week in December 2004 at the GPIC Complex in Sitra. On this occasion, Mr. Ed Horn, the Acting General Manager congratulated the employees on the success of the company in receiving the Highly commended Chemical and Refineries Sector Award from the Royal Society for the Prevention of Accidents (RoSPA) in recongnition of its continuous efforts in the fields of safety and health management. This achievement is of equal stature and importance as that achieved in previous years. He also congratulated the employees on receiving the Safety and Occupational Health Excellence Award for Major Companies from the Minister of Labout for 2004. He noted the outstanding achievement of registering more than 4.5 million combined accident free employee hours in over 1000 days of continuous work, demonstrating the level of commitment to safety, both by employees and contracting companies working at the GPIC complex.

GPIC Exports Biggest Urea Shipment

GPIC added yet another achievement to its record in 2004 following its success in loading a 40,000 tonne shipment of Urea on board the giant carrier MV Bunga Melor Empat. The shipment was exported on 31 December 2004 to customers in Australia from GPIC's Urea marine terminal in Sitra.

This is the biggest shipment ever to be exported to Australia since the company was awarded certification from the Australian Quarantine Inspection Services (AQIS). GPIC's marine facilities were afforded Level 1 System Status for the export of granular Urea. This recognises the high quality of product Urea GPIC exports to Australia. GPIC is the first Urea producer in the Middle East to be afforded this status by the Australian government.

OCP : Full Support for The Success of 18th afa International Annual Technical Conference & Exhibition Proceedings

Casablanca, Morocco: 5 - 7 July 2005



From Left: Mr.Hamdi,Mr. Cherif, Dr. Ashkar,Mr.Bajeddoub & Mr. Benchekroun

Mr. Mourad Cherif Director General of Groupe Office Cherifien Des Phosphates (OCP) emphasized that besides OCP being privileged by sponsorship the 18th afa International Technical Conference, which will be convened in Casablanca in Morocco during: 5 - 7th July 2005; it will also take each and every supporting step aiming at the success of such an important international conference. The abovementioned came in Mr. Cherif reception to Dr. Shafik Ashkar, **afa** Secretary General, at OCP Headquarter during Dr. Ashkar visit that was paid to prepare for the proceedings of the referred to conference, which will be held in July 2005 in Casablanca.

Moreover, Dr. Ashkar extended his thanks and appreciation to Mr. Cherif for his well known great efforts wishing him all the best, OCP all the success and Morocco all prosperity.

■ afa is pleased to announce the 18th afa International Annual Technical Conference & Exhibition, taking place at Casablanca, Morocco from 5 July to 7th July, 2005, in cooperation with Groupe Office Cherifien Des Phosphates (OCP).

The main objective of the conference is to bring together experts in fertilizer industry from Arab and non- Arab countries with interested international companies to present their technology, experiences and latest developments in the fellilizer industry and related subjects. Conference details and information will be available on afa web site: www.afa.com.eg

"Mineral Investment Horizons & Opportunities In The Arab Countries Symposium

Jeddah: 5-7 March 2005

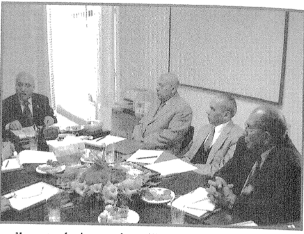
In line with the importance of the mining sector in economic developmnet in the Arab world and updating investors about potential mineral investment in the Arab countries, The Ministry of Petroleum & Mineral Resources of Kingdom of Saudi Arabia, in cooperation with Arab Industrial Development and Mining Organization hold from 5 - 7 March 2005, at Hilton Jeddah, "Mineral Investment Horizons & Opportunities In The Arab Countries" Symposium.

The symposium discussed four main topics through five sessions :

- Facts about exploration, exploitation and investment in the mineral sector in the Arab countries.
- Available investments in mining in the Arab couties
- Major investment attraction for investing in mining and horizon of development in th mining sector.
- Rules, regulations & governing laws controlling the exploration, and investment in the ming sector.

A site visit was organized to Mahd Al Dahab Mine and to Bozzlan extraction mine at Al Akhal.

Specialized Arab Associations meeting



The Arab Unions working in the framework of Council of Arab Economic Unity expressed their appreciation of the Egyptian role and its support and activities. This came at the meeting held at the afa headquarters under the chairmanship of Dr. Shafik Ashkar afa Secretary General and the President of the 30th periodical meeting for Specialized Arab Associations. The meeting was attended by representatives of Arab Union for Engineering Industries, Arab Union for International conferences and exhibitions, The Arab contractors Union, the Arab Iron and steel Union, and Arab Fertilizers Association.

During the meeting, it was agreed to hold a seminar at the end of April to discuss subsidy and dumping, as well as trade in services liberation agreement in the Arab region.

The members also discussed unifying efforts between specific Arab unions to act as a model supporting Arab drive in the common Arab market.



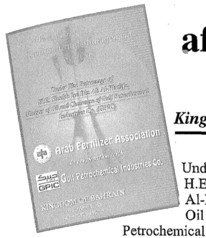
The 21st International Port Conference Sea Ports: Challenges & Future Prospects

Alexandria: 20 - 22 February 2005

Under the auspices of H.E. Prof. Dr. Essam Sharaf Minister of Transport, The Port Training Institute in collaboration with the Arab Academy for Science, Technology & Maritime Transport organized from 20 to 22nd February, 2005 at Alexandria, the "21st International Port Conference : Sea Ports: Challenges & Future Prospects".

Through seven sessions the following papers were presented:

- Expected Trends of Development In Maritime Transport & Ports
- Last Mile Logisitics In Maritime Terminals: Methodologies, Tools & Techniques For Improving Performances
- The Importance of The Suez Canal To The World Seaborne Trade
- The Impact of Shipping Conferences & Strategic Alliances on Liner Shipping Market
- The Korean Experience In Developing The Merchant Marine Fleet.
- Containerization & Transport
- International Trade Is About To Revolve Around A New Hub
- Port And The City: Re-development And Re-planning of Alexandria Port As A Development For Future Alexandria.
- Future Development & Prospects of Kuwait Ports
- Maritime Security & Cargo Inspections: A Turnkey Approach
- The Management of Health And Safety Issues In Port Operations: The Port of Thessaloniki Case Study
- Enhancing Port Monitoring With Automatic Identification Systems
- Situation of Transport Services On Egyptian Routes
- The New Era of The Logistics Supply Chain Security.
- Strategic Dimensions Of Gaza Seaport
- The Efficiency of Bot System In Financing Ports Infrastructure Investments
- Integrated Port Management Systems In The Evolution of An Efficient Port Policy.
- Towards An Integrated Environmental Management of The Port of Piraeus.
- Environmental Management of Ports Waste Management Strategy
- The Effect of Establishing Reception Facilities In The Sudanese Ports In Decreasing of Oil Pollution In The Marine Environment.



afa Workshop on "Environmental Management Systems"

Kingdom of Bahrain 18-20 April 2005

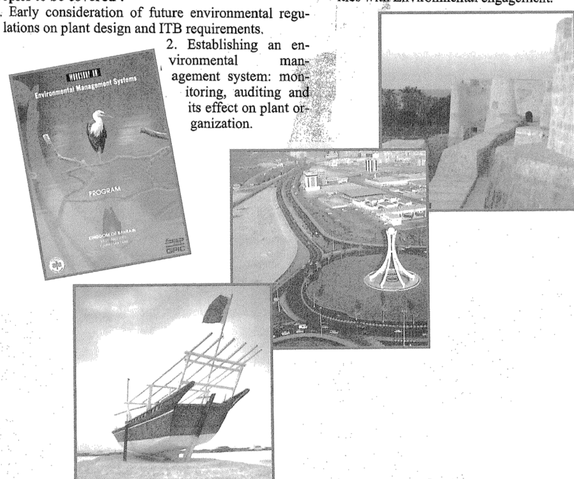
Under The Patronage of H.E. Shaikh Isa Bin Ali Al-Khalifa, Minister of Oil - Chairman of Gulf Petrochemical Industries Co. (GPIC), Arab Fertilizer Association hold on 18th to 20th April 2005, in Kingdom of Bahrain a workshop on "Environmental Management Systems".

The workshop is designed to provide officers in the fertilizer industry with an in-depth view of environmental management systems and other environmental issues in fertilizer plants and identify future trends and needs. The workshop also provides an opportunity to exchange ideas and disseminate information through discussion of the various technical, economic, safety, and environmental issues. The workshop will help to improve the participants' skill and broaden their vision and understanding of the recent environmental issues.

Topics to be covered :

1. Early consideration of future environmental regulations on plant design and ITB requirements.
2. Establishing an environmental management system: monitoring, auditing and its effect on plant organization.
3. Environment aspects of the emission deposits and waste water treatment in fertilizer plants.
4. Impacts, regional and international legislations/ standards on Arab fertilizer producers.
5. Implementation of occupational health and safety standard OHSAS-1800 I and its benefits on fertilizer producers.
6. Energy conservation programmes in fertilizer plants.
7. Waste management programmes in fertilizer plants.
8. Environmental awareness programme directed to society and neighborhood.

The workshop will be attend by delegates from afa member companies from departments involved in the field of Environment, Safety & Health, Production, Maintenance, Quality control, Organizations, Universities, Research Centers and Authorities with Environmental engagement.



New Members Welcome

*** General Co. For Phosphate & Mines (Syria)**
Ordinay member
Managing Director: Mr. Farhan Al-Mohsen
Company Profile:
Production, investment, marketing of all kinds of phosphate and all kinds of salt.

***Helwan Fertilizers Company (Egypt)**
Supporting Member (Till starting production)
Chairman: Mr. Mohamed Adel Danaf
Company Profile:
Production of ammonia and urea fertilizer. The plant is under construction. Production will start on second half of the year 2007.

***Rida Co. for Fertilizer & Chemical Industries (Egypt)**
Supporting Member
Chairman: Mr. Rida Abdel Mohsen
Company Profile:
- Trading, importing, exporting and distributing fertilizers & agriculture requirements (seeds, pesticides etc..).

*** Sochema (Egypt)**
Supporting Member
Chairman Mr. Sheriff El-Ashram
Company Profile:
SOCHEMA Group is a diversified company dealing in industrial chemicals, water purification and Engineering design and consultation. Sochema represents companies in USA , Europe, Asia & Middle East.

*** Modern Jordanian Company (Jordan)**
Supporting Member
Chairman: Dr. Fuad Al-Zubaidi
Company Profile:
Import and sales raw material for chemical industries: Aluminium Hydroxide, Ammonia nitrate, sulphur etc..

***Jordan International Chartering Co. (Jordan)**
Supporting Member
General Manager: Mr. Murad Ahmed Dakhqan
Company Profile:
Jordan International Chartering Company was established in the year 1992 based in Amman/ Jordan. The purpose of its inception is to provide chartering ship broking serices for its direct owners Messrs. Jordan Phosphate Mines Co. (KPMC) with 30% ownership, Arab Potash Co. (APC) with 20% ownership and Jordan National Shipping Lines Co. (JNSL) with 50% ownership. Ship chartering / Brokers. Exclusive ship borkers for Arab Potash Company; Jordan Phosphate Mines Co. and Jordan National Shipping Lines Co.

*** Jordan Group For Shipping Agencies (Jordan)**
Supporting Member
Chairman: Mr. Amjad Jebry
Company profile :
Jordan Group for Shipping Agencies offers prompt and reliable services to owners and charterers at the port of Aqaba. The company has the number one rank in terms of the percentage of tonnage handled at the port of Aqaba. In addition to the normal agency services, customers are also provided with all inland carriage needs. The company is based in Amman and Aqaba, staffed by experienced professionals with the best connections.

*** Green Olive For Trade & Transport (Jordan)**
Supporting Member
General Manager: Mr. Sami Ali
Company Profile:
General trading & land transport

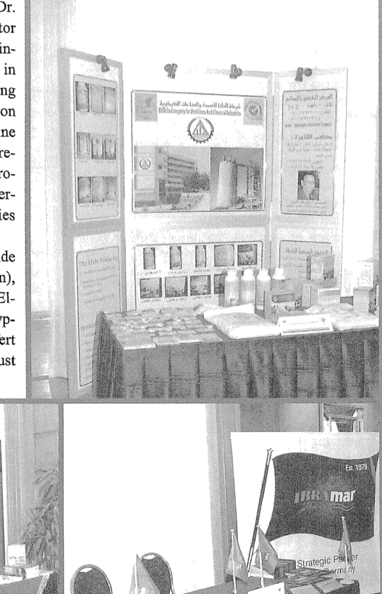
*** Sudanese Commercial Center (Egypt)**
Supporting Member
General Manager: Mr. Heider Abshar
Company Profile:
- Fertilizer trading
- General trading
- Maritime transport

*** Trimex International FZE (U.A.E.)**
As Supporting Member
General Manager: Mr. Gopalan Swaminathan
Company profile :
Trading of fertilizer from Jordan to India

*** Tradex India Corporation Pvt. Ltd. (India)**
As Supporting Member
Managing Director: Mr. Ajay K. Gupta
Company profile :
Marketing of phosphate rock, phosphoric acid, DAP produced by M/s. Jordan Phosphate Mines Co. Ltd.- Amman and marketing of muriate od potash of fertilizer and industrial grade produced by M/s. Arab Potash Co. Ltd. Amman, Jordan to Indian fertilizer plants, distributors and industrial plants.

Dr. Ahmed Guwali, Secretary General Council of Arab Economic Unity and Dr. Mohamad Al Braithen, FAO Asst. Director General, Regional Rep. for the Near East inaugurated an exhibition organized by **afa** in cooperation with British Sulphur Publishing accompanied the conference. The Exhibition attracted many companies aiming to outline their activities. These companies representing many activities, including the production and supply of a wide range of fertilizer products. The following companies have participated in these exhibition:

The Arab Potash company (Jordan), Uhde (Germany), Yargus (USA), GPIC (Bahrain), Abu Qir Fertilizers Company (Egypt), El-Delta Fertilizers Company (Egypt), Egyptian Fertilizers Company (Egypt), Alexfert (Egypt), Ibramar (Egypt) Aqua TRust (Egypt), EMISEL (Egypt).



afa / BRITISH SULPHUR EXHIBITION

Cairo: 1 - 3 February 2005



Thanks & Appreciation

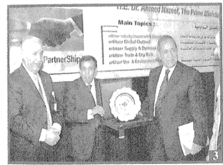
afa extends its thanks and appreciation for the following names for their usual support and consolidation:

- Dr. Ahmed Guwali, Secretary General , Council of Arab Economic Unity **1**
- Eng. Mohamed A. El-Mouzi, Chairman Chemical Industries Holding Co. **2**
- Dr. Gamal Bayoumy, Secretary General Arab Investors Union **3**
- Dr. Mostafa Al-Sayed, Chairman BAPCO **4**
- Eng. Ali Hamdi, ex-afa Secretary General **5**
- Ch. Yehya Kotb, Chairman EFIC **6**
- Eng. Ali Maher Ghoneim, Chairman Delta Fert. Co. **7**
- Ch. Mohamed Abdallah, Chairman Abu Qir Fert. Co. **8**
- Ch. Mohamed A. Helal, Chairman SEMADCO **9**
- Eng. Mostafa Kamel, General Manager EFC **10**
- Dr. Sherif El-Gabaly, Chairman Traders Association **11**
- Eng. Abdel Malik Farah, Chairman El-Nasr Mining Co.



1


2



3


4


5


6


7


8


9


10


11

3rd Marketing Managers Meeting

Cairo: 31/1/2005





*afa 3rd Marketing Managers Meeting was held on 31st January 2005 in Cairo - Egypt. The Meeting was chaired by Dr. Shafik Ashkar **afa** Secretary General and Mr. Yusuf Kuwary, QAFCO Marketing Manager. During the meeting it was discussed the following subjects:*

- *Highlights on 2004 Fertilizer Trade and 2005 prospects.*
- *Arab Inter-Trade and ways to develop*
- *afa 11th International Annual Fertilizer Conference: 1-3 Feb. 2005*

The meeting was attended by Messrs.

- **Eng. Yusuf Fakhroo**
  GPIC ~ Bahrain
- **Eng. Jaafar Salem**
  APC ~ Jordan
- **Eng. Nasser Abu-Aliem**
  JPMC ~ Jordan
- **Eng. Faisal Doudeen**
  JPMC ~ Jordan
- **Eng. Jamal Abu-Salem**
  Nippon-Jordan Co. ~ Jordan
- **Mr. Ahmed Ghaleb Al-Mehairy**
  FERTIL ~ U.A.E.
- **Mr. Twefik Medab**
  Groupe Chimique Tunisien Tunisia
- **Mr. Mohamed Abbas**
  Groupe Chimique Tunisien Tunisia
- **Dr. Yousef Louizi**
  Granuphos ~ Tunisia
- **Mr. Ahmed Mortadha**
  Granuphos ~ Tunisia
- **Mr. Mazouz Ben Jeddou**
  Asmidal ~ Algeria
- **Mr. Rashid Al-Mutairy**
  SABIC ~ Saudi Arabia
- **Mr. Fahd Al-Fawaz**
  SABIC ~ Saudi Arabia
- **Mr. Ghazi Ali Ghazi**
  SABIC ~ Saudi Arabia
- **Mr. Salah Bahbahani**
  PIC ~ Kuwait
- **Eng. Jamal Abdel Hamied**
  PIC ~ Kuwait
- **Eng. Yusry Khayatt**
  Abu Qir Fert. Co. ~ Egypt
- **Eng. Ahmed Shawki**
  El-Delta Fertilizer Co. ~ Egypt
- **Eng. Adel Attia**
  Egyptian Fertilizer Co. ~ Egypt
- **Eng. Somaya Abul Hamad**
  El-Nasr Fertilizer Co. ~ Egypt
- **Eng. Mohsen Abdel Hamid**
  El-Nasr Fertilizer Co. ~ Egypt
- **Eng. Ahmed Abdel Sattar**
  El-Nasr Mining Co. ~ Egypt
- **Mr. Mohamed Abdel Aziz**
  Abu-Zaabal Fertilizer Co. ~ Egypt
- **Mr. Adel El-Jamal**
  Abu-Zaabal Fertilizer Co. ~ Egypt
- **Eng. Ali Tagg El-Dine Soliman**
  Egyptian Financial & Industrial Co. ~ Egypt
- **Mr. Mostafa Sherif El-Gabaly**
  Polyserve Co. ~ Egypt
- **Mr. Khaled El-Hatty**
  Polyserve Co. ~ Egypt

From **afa** General Secretariat:

- **Eng. Mohamed F. El-Sayed**
  Assistant Secretary General ~ AFA
- **Mr. Yasser Khairy**
  Head, Economic & Agric. section

Technical Committee Meeting

Cairo: 31/1/2005





afa *32nd Technical Committee meeting was held in Cairo on 31st January 2005, chaired by Eng.* ***Ali Maher Ghoneim****, Chairman of* **afa** *Technical Committee, Chairman of the Board and Managing Director of El Delta Co. for Fertilizer & Chemical Industries (Egypt),* ***Mr. Faisal Doudeen*** *Vice-Chairman* **afa** *Technical Committee, Executive Manager For Marketing-JPMC (Jordan) and* ***Dr. Shafik Ashkar*** **afa** *Secretary General.*

During the meeting, the following subjects was discussed:

- ***afa*** *workshop "Environmental Management System": Bahrain 18 - 20/4/2004*
- ***afa*** *18th International Annual Technical Conference: Casablanca, Morocco : 5 - 7th July 2005.*
- *IFA Technical Committee Meeting : Alexandria - 11-13/4/2005.*
- *Workshop on "Technology of Nitrogeneous Fertilizer Industry" in cooperation with IFA/ IFDC/afa (Alexandria)*
- *Benchmarking*

The meeting was attended by the following Messrs:

- **Eng. Yusry El-Khayatt**
  Abu Qir Fertilizer Co. ~ Egypt
- **Eng. Abdel Aziem Abbasi**
  EFIC ~ Egypt
- **Eng. Miloude Louhichi**
  ASMIDAL ~ Algeria
- **Eng. Yusuf Abdalla Yusuf**
  GPIC ~ Bahrain
- **Eng. Jamal Ameira**
  APC ~ Jordan
- **Mr. Abdallah A. Al-Swailam**
  PIC ~ Kuwait
- **Eng. Khalifa Yahmood**
  Sirte ~ Libya
- **Eng. Youssef Zahidi**
  OCP ~ Morocco
- **Eng. Khalifa Al-Khulaifi**
  QAFCO ~ Qatar
- **Eng. Saad Bin Mohamed**
  SABIC ~ Saudi Arabia
- **Dr. Nizar Fallouh**
  General Est. Chemicals Industries ~ Syria
- **Dr. Youssef Louizi**
  Granuphos ~ Tunisia

From ***afa*** *General Secretariat*

- **Eng. Mohamed F. El-Sayed**
  Asst. Secretary General
- **Eng. Mohamed M. Ali**
  Head of Studies & Technical Researches Section





Economical Committee Meeting

Cairo: 31/1/2005

afa *32nd Economic Committee Meeting was held on 31st January 2005 in Cairo - Egypt. The meeting was chaired by* ***Eng.Yusuf Fakhroo****, Chairman of AFA Economical Committee, Marketing Manager GPIC (Bahrain)&***Eng. Jaafar Salem****, Vice Chairman of the Committee - Deputy General Manager for Marketing in Arab Potash Co. (Jordan) and* ***Dr.Shafiq Ashkar*** *the Secretary General.*

During the meeting it was discussed the following subjects:

- *Updating information on future projects in Arab countries as: QAFCO V project in Qatar with capacity 3000 T/D Ammonia - Urea .*
- ***afa*** *11th International Annual Fertilizer Conference: 1-3 Feb. 2005*
- *2004 Annual Statistical Report*

The meeting was attended by Messrs.

- **Mr. Mohamed A.R. Al-Terkait**
  PIC ~ Kuwait
- **Dr. Nizar Fallouh**
  General Est. for Chemical Industries ~ Syria
- **Mr. Mohamed N. Benchekroun**
  OCP ~ Morocco
- **Mr. Mohamed H. Birem**
  ASMIDAL ~ Algeria
- **Mr. Yousef Al-Kuwari**
  QAFCO ~ Qatar
- **Mr. Ahmed Ghaleb Al-Mehairi**
  FERTIL ~ U.A.E.
- **Mr. Twefik Medab**
  Groupe Chimique Tunisien Tunisia
- **Mr. Mohamed Abbas**
  Groupe Chimique Tunisien Tunisia
- **Mr. Nasser Abu Aliem**
  JPMC ~ Jordan
- **Mr. Jamal Abu Salem**
  Nippon-Jodan Co. ~ Jordan
- **Eng. Yusry El-Khayatt**
  Abu Qir Fertilizer Co. ~ Egypt
- **Eng. Soad Khedr**
  El-Delta Fertilizer Co. ~Egypt
- **Mr. Fahd Fawaz**
  SABIC ~ Saudi Arabia
- **Mr. Saad Bin Mohamed**
  SABIC ~ Saudi Arabia
- **Mr. Ibrahim Ahmed Burabeia**
  Sirte Oil Co. ~ Libya

From ***afa*** General Secretariate:

- **Eng. Mohamed F. El-Sayed**
  Assistant Secretary General
- **Mr. Yasser Khairy**
  Head, Economic & Agric. section





afa Board of Directors Meeting

Cairo: 1/02/2005

*AFA 71st Board of Directors Meeting was held in Cairo - Egypt on 1st February 2005, chaired by Mr. Hedhili Kefi, **afa** Chairman and President General Manager of Granuphos (Tunisia) and Mr. Mohamed Hadi Birem, **afa** Vice-Chairman and Member of ASMIDAL Board of Directors (Algeria), Dr. Shafik Ashkar, Secretary General.*

*During the meeting, **afa** board of Directors expressed its thanks and gratitude to the Government of Arab Republic of Egypt, to H.E. The Prime Minister for his patronage for the conference and to H.E. Eng. Ahmed Al-Leithy , Minister of Agriculture& Land Reclamation for his kind attendance to the Opening Session.*

*The Board expressed their thanks and gratitude to Dr. Mostafa Al-Sayed for his fruitful efforts during his membership in **afa** Board of Directors, to Eng. Ali Hamdi who is retired.* **afa** *Board welcomed Eng. AbdulRahman Jawahery as new member, representing the group of Bahraini companies in **afa** Board of Directors. Through the meeting's agenda, the Directors approved new member companies joined afa. They approved to offer honor membership to ex-members in **afa** Board and to afa recipients award for 2003 & 2004.*

The council discussed the final budget for financial year ended on 31 Dec. 2004 and they recommended to be presented to Assembly General for approval.

AFA Board meeting was attended by Messrs:

- **Eng. Mohamed Adel El-Mouzi**
  Egyptian Fertilizer Co. ~ Egypt
- **Mr. Mohamed A.R. Al-Terkait**
  PIC ~ Kuwait
- **Mr. Saif Ahmed Ghafli**
  FERTIL Co. ~ Abu Dhabi
- **Mr. Mohamed N. Benchekroun**
  OCP ~ Morocco
- **Eng. Ahmad H. Aoun**
  Sirte Oil Co. ~ Libya
- **Eng. Mohamed S. Badrkhan**
  JPMC. ~ Jordan
- **Dr. Nizar Falouh**
  General Est. for Chemical Industries ~ Syria
- **Eng. Mosaed S. Al-Ohali,**
  SABIC ~ Saudi Arabia
- **Eng. AbdulRahman Jawahery,**
  GPIC ~ Bahrain
- **Eng. Yousef Al-Kuwari** *QAFCO ~ Qatar*
- **Eng. Yusuf Fakhroo**
  *Chairman **afa** Economic Committee*
- **Eng. Mohamed F. El-Sayed**
  Assistant Secretary General
- **Mr. Mohamed Shaboury**
  Head of Financial Section





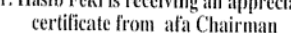




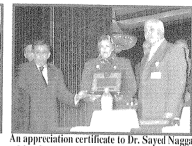
Dr. Mohamed Munir Rusan, Recipient of 2004 afa Award

Dr. Russan wins 2004 afa Award





Dr. Hasib Feki is receiving an appreciation certificate from afa Chairman



An appreciation certificate to Dr. Sayed Naggar Mrs. Soad Khedr received on behalf of him

afa would like to extend its warmest congratulations to Dr. Mohamed Munir Rusan who received the 2004 **afa** Award. Dr.Rusan has been selected by a distinguished panel of experts to receive the 2004 **afa** Award.

During the Opening Session of AFA 11th International Annual Fertilizer Conference H.E. Eng. Ahmed Al-Leithy, Minister of Agriculture & Land Reclamation presented to Dr. Russan the 2004 **afa** Award. Dr. Rusan received US$ 5000, an invitation to the AFA International Annual Fertilizer conferenc.

Dr. Rusan career :

- Associate Professor: Dept. of Land Management; and Dean of Faculty of Natural Resources and Environment, Hashemite University; (Zarqa - Jordan).

  Brief summary on his scientific qualification:
- 1993 Dr. Rusan got Ph.D. (Soil Fertility & Plant Nutrition) Washington State University.
- 1986 M.S. (Soil Chemistry) Washington State University
- Regional Co-ordinator for the International Potash Institute (IPI) for WANA (West Asia and North Africa).

  He had a wide range of research activities as management of Potassium fertilizers in agriculture in several regions in Iran and Egypt.

On the year 2003 **afa** Board of Directors decided to encourage Researchers from afa members as well as academic centers to run for afa Annual Award in the field of Fertilizer Industry and Fertilizer use in general. The aim of **afa** Annual Award is to honor and encourage the researchers and to notificate their efforts for showing their scientific works in order to contribute on the progress of research acitivity by securing a suitable atmosphere for scientific competition, developing the scientific researchers on the field of fertilizer industry and fertilizer use and following-up the continuous progress on this field. Encouraging Arab human resources and Arab experiences on this vital and important industry. The aim of the Prize is also to achieve more contacts and cooperation between those who work on the field of fertilizer indusry and those who work at universities and research centers.

Research work will be evaluate according to the following criteria:

* Originality
* Research sytematic and results.
* Technical and economical feasibility aspects of the research.
* Usefulness of the research for the fertilizer industry.
* Research must be submitted through afa member companies.
* Researcher work for last five years.

afa extends its warms congratulation to **Dr Hasib Feki,** (Abu Qir Fertilizers Co.) and **Dr. El-Sayed Naggar** (Delta Fert. Co.) who received two appreciation certificates from **afa** for their two reseraches.

2003 Award recipient was Dr. Mohamed Hamissa, Consultant at the Institute of Soil, Water & Environment- Ministry of Agriculture (Egypt).



fertilizer market as well as the organic farming in spite of its small agricultural magnitude.

4- The Investment opportunities are available in the region which calls for more joint projects in the Region in order to increasing fertilizer volume and to grab market opportunities.

5- Provide a "Package of Incentives" that would facilitate attraction of Arab and foreign investments to the Region.

6- Activate systems and mechanisms related to disputes settlement in trade and investment.

7- Adopt diverse new patterns of multi-lateral purpose for cooperation between Arab countries that commensurate with these countries capabilities.

8- Finalize coordination of economic and trade policies for developing the Arab intra - regional trade

9- Call upon specialized Arab Unions and Associations for more coordination for establishment of specialized Arab Common markets.

10- Give more attention to human resources development in the Arab countries in order to match the changing labor markets.

11- Establish and Provide information data bases in the Region to serve investment and support ventures.



SITE VISIT



A plant visit to the Egyptian Fertilizers Company facilities in Ain Sukhna was organized. Over than 35 delegates participated on this visit. afa extends its gratitude for the hospitality shown.



Session V:

"New Concept on Fertilizer Use & Environment Protection"

Chairpersons: **-Dr. Salem Al-Louzi**
-Dr. Ghassan Hamdallah



1- AOAD Strategy to Boost Agricultural Production and Minimize the Food Gap Till 2015
Dr. Hassan Salem Al-Hassan - AOAD (Sudan)



2- Improving Food Grains Productivity: The Indian Challenge
Mr. Raza Soomar, President - RNZ International (India)



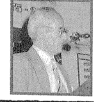
3- Utilization of Applied Fertilizer & Irrigation Water (Determined by Nuclear aud Trad. Techniques)
Dr. Munir Jamil Rusan, Dean of Natural Resources & Environment at Hashemite Univ. (Jordan)



4- Nitrogen Fcrtilizer Strategy in Egypt
Eng. Mesbah M. Ashour, General Manager Investment Dept. - El-Delta Co. (Egypt)



5-Commercial Success with Technological Advances in Optimal Nutrition of Sandy Soils
Mr. Adriaan Boersma, Product Manager SBT's - OMNIA Group (South Africa)



6- Fertilizers for Sustainable Agriculture in India & Organic Farming Situation:

IMPHOS Participation
Dr. G. Dev- IMPHOS Consultant (India)

Closing Session:

A. Main themes of the Conference:

-Panel discussion on "Arab countries cooperation and Investment of Opportunittes in Fertilizer Industry".

Day 2:
- Global outlook of fertilizer market
- Supply and Demand Balance and Global Fertilizer Market

Day 3:
- Trade and dry Bulk, Shipping, Prospect
- New concept on fertilizer and environment protection

B. Points that were discussed during the panel discussion "Arab Countries cooperation and Investment of Opportunities in Fertilizer Industry"

Based on discussion during this panel session the following points were pointed out and endorsed :

Fertilizer Role & Investment Opportunities

1- The increasing role of chemical fertilizer is essential in food production is required to contribute in facing the rapid growth of population and for fighting hunger
2- Close cooperation is needed among fertilizer producers, regional and international organizations to promote the safe and effective use of chemical fertilizers by farmers as and the end- users, thus the maximum benefit from fertilizers is achieved along with the environmental protection.
3- Call upon fertilizer producers, governments and regional and international organization to give due attention to the research, development and extension related to appropriate fertilizer use, biotechnology and its impacts on



Session IV: "Trade & Dry Bulk, Shipping, Prospect"

Chairpersons:
-Eng. Mosaed Al-Ohali
-Eng. Yousef At Kuwari



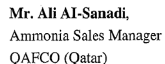
1- Global Transportation Aspects with Main Focus on Dry Bulk
Mr. Jarle Hammer,
Chief Economist
Fearnlyes AS (Norway)

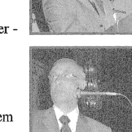


2- The World of Potash
Mr. Brent Heimann,
General Manager
APC (Jordan)

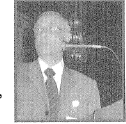


3- The China Situation & Freight Prospects for 2005
Mr. Robin Thomas,
Business Development Manager - SSY (UK)





4- Ammonia Outlook Supply/Demand &Trade East of Suez and Oceania 2005-2008
Mr. Ali Al-Sanadi,
Ammonia Sales Manager - QAFCO (Qatar)

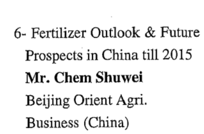


5- Highlights on Modern Maritime Transport System
Dr. Abdel Halim Bassiouny,
Dean of MRCC (Egypt)

3-Sulphur Supply/Demand Balance:
The Outlook to 2013
Mr. Mike Kitto
British Sulphur (UK)



4- Fertilizer Outlook & Future Prospects till 2015 in Pakistan
Dr. Nisar Ahmad,
Executive Director
NFDC (Pakistan)



5- Fertilizer Outlook & Future Prospects in Spain till 2015
Mrs. Isabel Carcia Tejerina,
Planning Strategy Director
Fertiberia (Spain)



6- Fertilizer Outlook & Future Prospects in China till 2015
Mr. Chem Shuwei
Beijing Orient Agri. Business (China)





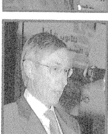
Session II:
Global Outlook of Fertilizer Market

Chairpersons :
- **Mr. Mohamed Baderkhan**
- **Eng. Yusuf Fakhroo**





1- Role of Chemical Fertilizers in Fighting Hunger
Dr. Ghassan Hamdallah
Sr. Soils & Fertilizer Officer/FAO
Regional Office, (Cairo)

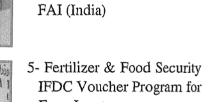


2- Biotechnology and its Implications for Fertilizer Industry
Mr. Luc Maene
Director General
IFA (France)



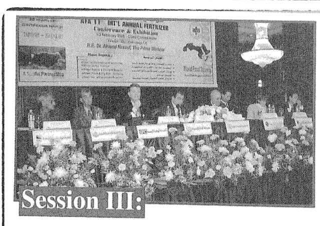
3- The European Fertilizer Industry after One year into Enlargement
Mr. Helmuth Aldinger
Director General
EFMA (Belgium)

4- Indian Fertilizer Situation & Future Outlook
Mr. R. C. Gupta
Deputy Director General
FAI (India)



5- Fertilizer & Food Security IFDC Voucher Program for Farm Inputs
Dr. Amit Roy,
President and Chief Executive Officer
IFDC (USA).

■ **Papers abstracts are on afa web site: www.afa.com.eg**

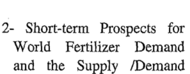


Session III:
"Supply & Demand Balance on Global Fertilizer Market"

Chairpersons:
- **Eng. Mohamed Abdallah**
- **Dr. Youssef Louizi**



1- Australian Fertilizer Industry and its Outlook
Mr. Peter McEwen, Chairman - FIF A (Australia)

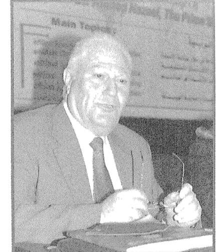


2- Short-term Prospects for World Fertilizer Demand and the Supply /Demand Balances
Mr. Patrick Heffer,
Executive Secretary of IFA's Agriculture Committee - IFA (France)

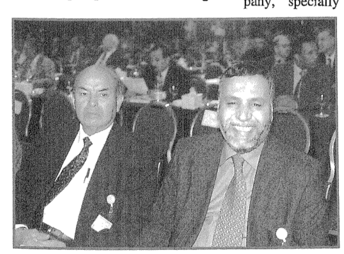


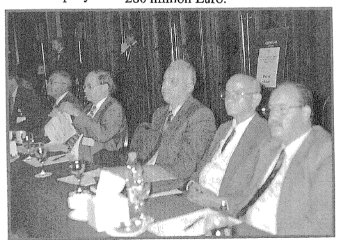
structural one because Arab countries do not produce sufficient amounts of most of their needs, so they import them from foreign countries. The three most important items Arab countries usually import are machines and equipment, means of transportation, vegetables, animals, fish, fats, and oil. The gap between exports and imports of these products represent more than 45% of Arab imports. He also referred to the limit impact of horizontal expansion in the trade in goods, and the need of a comprehensive vision of an integrated Arab system that can surpass concluding of agreements of limited horizontal impact. He also asserted the need for a direct sponsorship from the Arab Summit on Economic Affairs, whereas the social and economic files represent the base for the Arab entity strength and the economic shield of collective security.

▪ In his intervention, **Dr. Fayez El- Horany**, Director of the Studies Department at the Arab Mining Company, dealt with the importance of Arab fertilizers industry which progressively increased during the previous period in the context of clear signs of a larger production structure and increased market needs and clear development of technology and usage and increased needs to consume these necessary substances which rendered the fertilizers industry a great success. This industry faced periodic fluctuations which accompanied international market conditions. The rise in prices of potassium, phosphatic and nitrogenous fertilizer emphasized the estimation credibility and the importance of continuous expansion of existing capacities and implementation of new projects specially in this area for obvious reasons that add competitive and comparative advantages for the benefit of all parties involved: investors, producers and consumers, thus we became proud of the capital and technology unity. Therefore, common Arab action in these fields became a duty that goes beyond geographical borders and local population commitments.


Dr. Fayez El- Horany

Dr. Horany then talked about the Arab Mining Company which was established by CAEU in 1975 to support Arab relations on the basis of mutual cooperation to invest mineral wealth economically and diversely in various useful productive and developmental projects. He also reviewed the investment strategy in the fertilizers sector at the Arab Mining Company, specially the company's contribution when it was first launched to implementing mutual fertilizers and raw material projects, where the rate of its contribution to this sector surpassed 43.4% of total company contribution. Contribution of the Arab Mining Company by more than 51 million dollars since 1977 in the Potash company, is considered the main factor in implementing this giant company's projects and increasing its role in the second half of the 90's in cooperation with Jordan Phosphate Company which represents the historical development of fertilizer industry in Jordan and the region. The Arab Mining Company contributed by more than 15 million dollars to the Jordan Fertilizer Company. After its merger with the phosphate company in 1985, the contribution of the Arab company in the Jordan Phosphate Company became a direct one. Realizing the great importance of the fertilizer industry, the Arab Mining Company took part in establishing Mansoura company for Fertilizers which is an Egyptian company established according to the free private zone law. This project aims at producing 400000 tons of ammonia per year and about 635000 tons of grainuled urea. Contribution in the capital of this company, worth about 106 million Euro is distributed among Gulf companies, German, American and Egyptian companies providing technology. The implementation of this project will be a clear positive step in the field of fertilizers industry as the total investment cost will exceed 280 million Euro.

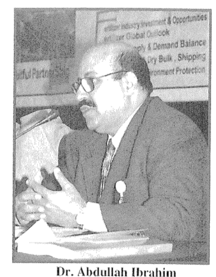

Eng. Mostafa Kamel & Eng. Ahmed H. Aoun

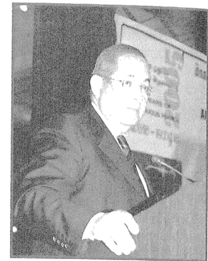

Delegates during the sessions

pound fertilizer: about 2.5 million tons
- Potash: about 0.5 million tons.

■ **Dr. Abdullah Ibrahim** Director of projects Department at the Arab Petroleum Investments Corporation (APICORP) presented a paper on the Arab fertilizer industry: Changes and responses. At first, he spoke about the structural changes which the ammonia and urea industry in the region go through. For him, it is necessary to respond to these changes referring to the company's role in supporting and developing petrochemicals sector in the Arab region. Dr. Abdullah tackled the main factors leading to structural changes before developing low cost natural gas fields in the region and opening new markets for its exports of urea. He also dealt with open door policies in the Arab region towards foreign capitals, in addition to promoting private sector role in development. He also reviewed current state of ownership of Ammonia/urea companies in the region.
- 7 companies whose capitals are fully government owned.
- 5 companies whose capitals are mostly government owned
- 2 companies in which the private sector own relative majority of their capitals: SAFCO and the Egyptian fertilizers company.
  As for newly established companies or companies under establishment, public ownership is still prevailing.
- 5 companies whose capitals are mostly publicly owned, 4 are Egyptian companies and one Omani company.
- 2 companies whose capitals are mostly privately owned: an Egyptian Company and a Omani company.

He also dealt with APICORP contribution during 1994 - 2004 through extending seven loans to ammonia and urea projects established or currently being established in the Arab region, referring to APICORP administration and financing services through the following:
- Financing existing companies
- Financing projects (new as well as expansions)
- Providing financing consultations


Dr. Abdullah Ibrahim


Dr. Gamal El-Din Bayoumy

- Financing Trade
- Direct contribution in capitals

■ **Dr. Gamal El-Din Bayoumy**, Secretary General of the Arab Investors Union presented in his intervention at the panel session reform suggestions concerning common Arab action. At first, he talked about the Arab world and current changes which head rapidly towards globalized international relations, mutual security concepts, openness to knowledge and liberalization of trade. These changes are now active at two levels:
The international level where political borders have been eliminated among blocks, political freedom and democratic systems have been adopted in its different forms, in addition to openness to international economy, international financing institutions (IMF, WB) have been employed as tools for international multilateral economic work.
The regional level in which countries try hard to establish a kind and a degree of regional relations not provided by World Trade Organization .
WTO provided the minimum degree of developing international trade relations within the context of the most- favoured -nation clause, but it failed in the last three meetings to overcome the results of Uruguay Round. Dr. Gamal EL Din also mentioned that there is no chance for developing countries and specially the Arab ones to achieve their individual goals except by deepening their interrelations in the context of the regional blocks, thus came the importance of regional dimensions of Arab relations. He dealt in his intervention with the common Arab economic action for being related to development goals, mutual security interests and needs of common Arab economic action to surpass the free trade zone stage to build a new dynamic economic system, based on some systems that go far beyond trade in goods. These systems include other sectors for cooperation such as service, investments, drainage, information technology, transportation, communication, tourism, and construction sectors. In addition, they include industrial integration and agriculture to deal with the food gap and scientific research, as well as the right of the Arab citizen to move easily in the Greater Arab home, which is an additional advantage.
Dr. Bayoumy praised the full elimination of custom duties among Arab countries, members of the Arab free trade zone on January 1st, 2005 according to the time table set by the Arab Summit held in Beirut. Dr. Bayoumy considered this an unprecedented step at the level of Arab action which can achieve more benefits if the Arab countries deepen their relations to include more sectors along with supporting reform and liberating trade policies that complements the agreement, Arab Investors Union Secretary General said the reason behind inter-trade deficiency is the small size of the Arab industry and lack of diversity. He believed that the most important reason is a

Session I:

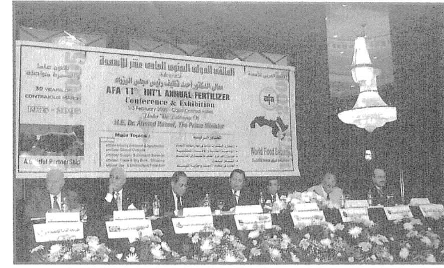
The programme of papers at afa 11th Annual International Fertilizer conference and Exhibition held in Cairo, from 1 to 3 February 2005, was particularly diverse. Nevertheless, all were well prepared and excellently presented. The papers presented at the meeting were of the highest calibre and covered a wide range of topics.

Session I: Panel Discussion on **"Arab Countries Cooperation and Investment Oportunities in Fertilizer Industry"**

Chairperson: **Dr. Ahmed Guwali**

Panelists:

- **Dr. Shafik Ashkar**, Secretary General, Arab Fertilizer Association
- **Dr. Ahmed Guwali**, Secretary General, Council of Arab Economic Unity (Arab League)
- **Eng. Mohamed El-Mouzi**, Chairman, Chemical Industries Holding Co.
- **Dr. Abdallah Ibrahim**, Director of Projects Dept., Arab Petroleum Investments Corporation
- **Dr. Gamal Bayoumy**, Secretary General, Arab Investors Union
- **Dr. Faiz Al- Horani**, Head of Studies Division, Arab Mining Co.



Panel discussion session, from left: Dr. Horani, Dr. Ashkar, Dr. Bayoumi, Dr. Guwali, Mr. Kefi, Dr. Ibrahim

■ In his intervention on Arab economy between reality and significant challenges, Arab fertilizers industry and investment directions, **Dr. Shafik Ashkar**, **afa** Secretary General talked about economic development which is considered to be the steering power for Arab countries and one of the most important reasons related to stability and nations' welfare. He also said that decline of economic growth is due to several factors on top of which is the so called financing gab (investment gab) which is the difference between local savings and the investments necessary to promote economic growth. In his intervention, Dr. Ashkar referred to the investment environment known as the sum of administrative, legislative, political, and economic status and directions which attract and stimulate investments. He clarified the most important investment features in general which are clear in the growth of the real GDP, openness to outer world, the change in the nominal exchange rate, and the rise of the world interest rate. He also explained the policies that stimulate foreign investments like those which support economic stability through stable economic policies and avoiding fluctuations in exchange rate, in addition to positive incentives as taxes incentives and increasing efficiency of infrastructure.

afa Secretary General reviewed in his paper the Arab economy in the last decade of the 20th century, which is characterized by the following features:

- Depending on sectors extracting natural resources namely, oil and mining raw materials;
- Reduction in agricultural produce contribution to the general production of food goods;
- Weakness of inter-Arab trade.

He clarified the reduction of Arab world share of total international investments during 2003, 2004 reaching about 1.54% and about 5% of the developing countries' total share in spite of the measures taken to improve the investment environment by introducing several amendments in the investments laws, concluding bilateral agreements to avoid double taxation and improving investment registration measures. **Dr. Ashkar** stressed the importance of restoring migrating Arab capitals, where the size of Arab capitals investments in non- Arab countries is about 800 million Dollars, according to estimates of the UN Economic and Social Commission for Western Asia (ESCWA).

The Secretary General concluded his intervention on Arab fertilizer industry and its raw materials in addition to its distinguished status at the international level where Arab nations have almost 70% of the World reserve of phosphate rock, and about 33% of the world natural gas reserve, in addition to sulphur and potash which are the main raw materials needed to produce different fertilizer. He also reviewed the current Arab producti on and exports rates indicating that Arab production represent almost 5- 25% of world production of different fertilizer and about 4 - 33 % of raw materials. Arab exports represent around 6 -74% of main raw materials specially sulphur and phosphate rock which represent 18 -71% of world exports of different fertilizers and materials. **Dr. Ashkar**, then, explained the importance of the fertilizer industry in the Arab countries at both agricultural and industrial levels. At the end of his intervention, Dr. El Ashkar also reviewed future projects for fertilizer industry and production capabilities of the new expected projects in the Arab region:

- Ammonia: about 6.4 million tons
- Urea: about 7.8 million tons
- phosphate materials: about 5 million tons
- phosphoric acid: about one million ton phosphorus pentoxide
- Triple super phosphate: about 0.5 million tons
- Ammonium phosphate and com

dan through the national projects in Toshkey, north of Sinai and the Western desert. In the year 2004 - 2005, the size of the cultivated area is about 15.8 million feddan and is expected to reach about 19.00 million feddan in 2016 - 2017. This means that the need for nitrogenous fertilizer will increase at an estimated annual rate of about 3% to reach 12.00 million tons of nitrogenous fertilizes, namely azot 15.5% . He indicated that the fertilizer policy in ARE is based on certain pillars, among which is covering local need of all nitrogenous fertilizer to achieve stability and meet the increased growth in demand, as well as to achieve definite planned export goals until 2016-2017 through the targeted market gap. In addition, the policy aims to maximizing return to the national economy by benefiting from the Egyptian main raw material stock, specially the large reserve of natural gas and phosphate rock and benefiting from the unique geographical location in the middle of targeted markets, as well as expertise and trained labor and harbors spread along the Red Sea and the Mediterranean.

Dr. Ashkar calls for Pursuing Sustainable Development, Narrowing Food Gap and Combating Starvation

At the beginning of his speech, afa Secretary General **Dr. Shafik Ashkar** welcomed Minister of Agriculture and Land Reclamation Engineer Ahmed Al-Leithy who attended on behalf of His Excellency the Prime Minister Dr. Ahmed Nazif and the distinguished guests. Dr. Shafik mentioned that the honorable patronage of H.E. The Prime Minister is a clear manifestation of a high interest in fertilizer for being an effective source for the agriculture production in general and food crops in particular. He further added in his speech that convening such an international conference coincide with the 30th anniversary for the establishment of Arab Fertilizer Association (afa) founded in 1975. Thus, it has been an opportunity to refer to all the accomplishments achieved by afa throughout the years heading for the continuation of boosting the development of Arab fertilizer industry, maximizing its capabilities and diversifying its products for it represents together with the petroleum industry the backbone of the Arab countries social and economic development process. Dr. Ashkar praised the pioneering role played and efforts exerted by Council of Arab Economic Unity in addition to the distinguished role played by the Secretariat represented by the Secretary General His Excellency Ahmed Guwali. Moreover, he referred to the beginning of applying the Free Arab Trade Agreement and the goods and products flow between Arab countries and their importance in encouraging inter- Arab trade cooperation.



Dr. Shafik Ashkar

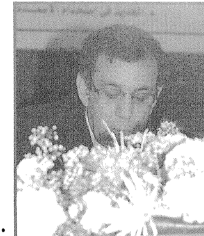
afa Secretary General also talked about the afa goals and keenness upon realizing such goals concerning raising the common Arab coordination level in the field of manufacturing fertilizer and utilizing its materials. It is noteworthy that the Arab region has the highest international stock of the referred to materials at the top of which the natural gas with about 30% and the phosphate rock with about 70%. Both materials remain to be the cornerstone of the nitrogenous and phosphatic fertilizer industry. Among the other afa goals are exchanging accumulative technical expertise and fertilizer industry technology and using them in assisting Arab companies working in such field through holding specialized technical conferences, forums and workshops .

The aforementioned is to be carried out in line with the social and economic developmental programs and plans and fertilizer industry is to be utilized to combat unemployment through expanding the establishment of factories as fertilizers industry requires high amount of manpower. His Excellency the Secretary General stated that from the afa goals also the serious pursuance toward sustainable development, increasing agricultural production, narrowing food gap and combating starvation in cooperation with Food and Agriculture Organization (FAO) ambitious program for starving people all over the world who reached about 850 million. Dr. Ashkar clarified that the plan aims at reducing the above mentioned number to the half by the 2015. However, indicators referred to the increase of the referred to number as a result to a number of factors, namely, the reduction of rain rates in some developing countries, poor programmed utilization for agricultural lands, trespassing on agricultural lands as a result to population increase and immigration from countryside to cities, wars, polotical chaos and natural disasters as happened in South Asia.


VIP & delegates during the sessions

Mr. Kefi:

Towards Encouraging Inter-member States Industrial Integration To Build An Integrated Industrial Base For Arab Fertilizer

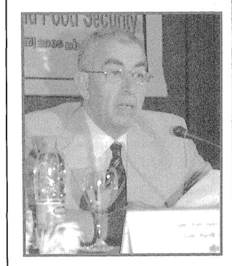


At the beginning of his speech at the conference opening ceremony, afa Board Chairman Mr. Hedhili Kefi thanked H.E. Egyptian PM. Dr. Ahmed Nazif for sponsoring this conference, and his Excellency Minister of Agriculture and land reclamation for attending the opening ceremony. He also thanked the Egyptian government for its ongoing support which has a great effect represented in the increasing number of attendees to this international important event. Mr. Kefi emphasized the great status of the Arab fertilizer industry at the international level where the Arab fertilizer companies' exports represent 20-70% of total world exports. afa Board Chairman reviewed how the Association adopted a strategy and a vision that depend mainly on the importance of activating its dynamic role based on the status of the Arab fertilizer industry on both international and Arab levels, by increasing guidance and specific activities of making good use of fertilizer ofvarious kinds and different major and minor elements as it has a great effect in increasing agricultural produce. This can be achieved by promoting cooperation and integration with international and regional organizations, associations and institutions involved in fertilizer trade, industry and use. This aims at contributing to fighting poverty and starvation and achieving world food security, and also through paying attention to sustainable human development through holding forums and conferences, specialized workshops and caring for environment and its protection in each stage of extraction, production, handling and use to serve the concept of sustainable industry development in addition to an annual prize worth of$5000 to be granted to the best applicable research in the field of fertilizer good use, environment protection and improving the specifications of fertilizer to raise its efficiency, and pushing forward towards encouraging inter-member states industrial integration to build an integrated industrial base for Arab fertilizer, and to raise the level of trade exchange in fertilizer inputs and products, and establishing specialized centers to transfer and stabilize industrial technology, and support Arab markets trained qualified cadres.

afa board chairman thanked afa Egyptian member companies for their generosity, support and cooperation: Holding Company for Chemical Industries, Abu Qir Fertilizers Company , El-Delta Fertilizers Compant, El-Nasr Fertilizers Company (SEMADCO), Egyptian Financial and Industrial Company, Egyptian Fertilizer Company, El Nasr Mining Company, Egyptian Chemical Industries Company (KIMA), and Egyptian Association of Fertilizer Distributors and Traders.

Eng. El-Mouzi:

Cultivated area in Egypt is about 15.8 million feddan on 2004/2005 and is expected to reach about 19.00 million feddan in 2016 - 2017



The Representative of the Egyptian fertilizer industry at afa Board of Directors, **Eng Mohamed El-Mouzi** praised in his statement at the Conference opening ceremony the Arab fertilizer industry which now enjoys a prestigious status at the international level. This is due to the gained expertise of workers of this industry, in addition to the large reserve of the raw materials necessary for this industry, as natural gas, phosphate rock, potash and sulphur and the distinguished geographical location in the middle of the international targeted markets. Eng. Mohamed El Mawzy also talked about the fertilizers industry in the Arab Republic of Egypt clarifying that it will go through large developments in the coming stage to cope with international and local changes. This will be achieved through national projects in the agricultural sector. The plan is to increase new land to hit about 3.4 million fed

Council of Arab Economic Unity praises afa role

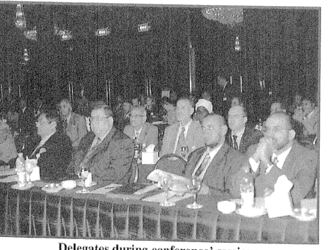
Dr. Guwali: We are sure afa leaders and Secretariat, enjoying national progressive thinking, are capable of achieving goals aspired by all loyal Arabs

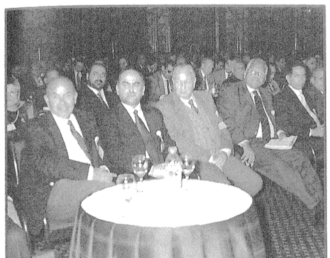
In his statement at the opening session of this Conference, **Dr. Guwali** Secretary General of Council of Arab Economic Unity focused on supporting the common Arab action and establishing the common Arab market as soon as possible for being the basic element in the desired development and the best way to improve the Arab citizen standard of living and welfare. He also called for encouraging inter- Arab investments to raise standard of trade exchange. Dr. Guwali also mentioned in his statement that the complete liberation steps for exchange of goods among Arab counties has come to an end by the launching of the Great free trade zone which includes 17 countries so far. These countries agreed to eliminate all tariff and non-tariff barriers on trade exchange among them at the beginning of this year, which is considered the greatest Arab economic achievement and a true step towards complete economic integration. His Excellency also expressed his hope to achieve a similar agreement to liberate service trade among Arab countries. Good steps have been taken in this regard in the context of the Arab League Economic Council. Based on the role of the CAEU in the Arab economic action drive and its support to the efforts of the Arab League Economic Council, the CAEU set a strategy for Arab economic integration. In accordance with this strategy and starting in 2006 a customs union

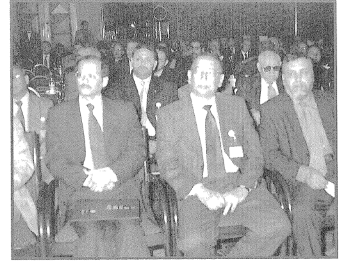


will be established for Arab countries on several stages through 2015, thus unifying custom duties among countries that will join the union. His Excellency the CAEU Secretary General announced that the establishment of a common Arab market will be announced in the period 2015-2020, and this will allow the movement of labor and capitals, it will also allow for more coordination of Arab policies. This includes monetary and financial policy, setting of an Arab investment zone, and a technology zone.

Dr. Guwali praised afa important role and considered it one of the most essential Specific Associations working within the Council of Arab Economic Unity. It is one of the Associations that have great relative advantages in the Arab region as gas, oil, raw materials like phosphate, potassium. . etc. In addition to the distinguished geographical location, there are great opportunities for the fertilizers industry and the conference stands as a good evidence of the importance of the Arab fertilizer industry. This year, the number of attendees has been great and surpassed that of previous conferences. This proves that the association has a great distinguished activity because of the afa General Secretariat efforts under the leadership of Dr. Ashkar who we are glad to work with, therefore I would like to give this association the responsibility of transforming the association into a specific common market formula as the afa Chairman, the fertilizer industry representative in Egypt and the Secretary General stated on the coordination, and other issues, as well as acting as an Arab fertilizer market through organizing productivity, investment, pricing, research, and foreign trade policies whether international or among Arab countries. We are sure afa leaders and Secretariat, enjoying national progressive thinking, are capable of achieving goals aspired by all loyal Arabs. We are sure this association at this stage could lead others and fulfill great achievements.


Delegates during conference' sessions





VIP and afa Board of Directors during the opening session

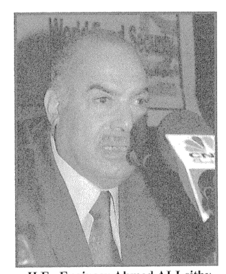
The Prime Minister:

Government Keen On Providing Farmers With Sufficient Amounts of Fertilizers at Suitable Price

Minister of Agriculture and Land Reclamation **H.E.Engineer Ahmed Al-Leithy** said in a statement read on behalf of H.E. PM Dr. Ahmed Nazif that there is a room for expansion in the chemical fertilizers industry to meet all needs of Arab countries in a specialized integrated manner. He asserted that both cooperation and coordination are very important among Arab countries in the field of production of chemical, fertilizers, and in increasing Inter- Arab trade to support Arab entity in a world controlled by great economic entities.

Dr. Nazif demanded to come out with practical applicable recommendations to solve fertilizers trade and industry problems in the Arab region. Such industry is considered one of the most important factors in developing agriculture and increasing its produce, specially in the light of increasing agricultural intensification rates in most Arab countries.

At the Arab level, Arab production of chemical fertilizer is considered important in increasing agricultural produce. Arab countries exports for all kinds of fertilizer (nitrogenous, phosphatic, potassium) and its raw materials represent between 6 - 75% of global fertilizer exports. Local consumption of nitrogeneous fertilizer represents about 25% from total Arab production.



H.E. Engineer Ahmed Al-Leithy

This reflects that Arab countries have export surplus of chemical fertilizer, taking into consideration the great dissimilarity in each country's production of different fertilizer. No doubt that there is a room to expand fertilizers' industry and to meet all needs of Arab countries in a specialized integrated manner .

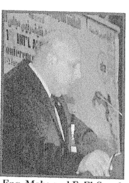
His Excellency clarified that the agricultural policy pays great attention to providing chemical and organic fertilizer as one of the most important resources that directly affect various crops produce. He also said that the economic reform policy and liberalization of fertilizer trade have been applied so that both the cooperatives and private sector companies are allowed to export fertilizers. Some companies are also allowed to decide on size of their production according to supply and demand in the domestic market. He also asserted that the government is keen on providing this strategic product by giving instructions to the Development and Agricultural Credit Bank to deliver domestically produced fertilizer at cost price in addition to importing about one million tons to overcome shortage in fertilizers and stop its exportation. He referred to the fact that the ministry of agriculture set a new strategy for agricultural development in Egypt through 2017 aiming at achieving the utmost return of land and water unity, in addition to providing sufficient quantities



Opening session: From left: Dr. Ashkar, Dr. Guwali, Dr. Al-Leithy, Mr. Kefi and Eng. El-Mouzi

afa 11th International Annual Fertilizer Conference & Exhibition

Cairo - Egypt: 1 - 3 February 2005

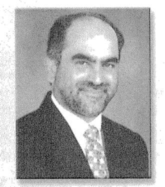


Eng. Mohamed F. El-Sayed inauguration presenter

Under the auspices of H.E Prime Minister, **Dr. Ahmed Nazif** and the honoured attendance of **H.E. Eng. Ahmed Al-Leithy** , Minister of Agriculture & Land Reclamation on behalf of the Prime Minister, **H.E. Dr. Ahmed Guwali**,-Secretary General, Council of Arab Economic Unity (Arab League), **Mr. Hedhili Kefi**, afa Board Chairman, **Eng. Mohamed El-Mouzi**, Representative of Egyptian Fertilizer Industries , and **Dr. Shafik Ashkar**,afa Secretary General,the Arab Fertilizer Association (afa) hold its 11th International Annual Fertilizer Conference & Exhibition at Cairo Conrad Hotel during the period:1-3 February 2005.

The opening session was attended by afa Board of Directors, senior guests and more than 550 Arab participants from international institutions and companies related to the fertilizers industry and raw materials. Participants represented 39 countries among which 14 are Arab countries: Jordan, UAE, Bahrain, Algeria, Tunisia, Syria, Saudi Arabia, Qatar, Kuwait, Lybia, Morocco, Egypt, Lebanon, and Sudan. While the rest represented 25 foreign countries: Belgium, France, Germany, Greece, Switzerland, England, Spain, Norway, Turkey, Austria, Azerbaijan, Czech Republic, Monaco, USA, Canada, China, India, Malaysia, Pakistan, Iran, Sri lanka, South Africa, Zimbabwe, Congo, and Australia.

Editorial



Mr. AbdulRahman Jawahery
General Manager
Gulf Petrochemical Industries Company (GPIC)
Kingdom of Bahrain

The chemical fertiliser industry is considered one of the most important, linked directly with world population growth and the ever-increasing demand for food. All economic indicators show that the fertiliser industry will demonstrate the same positive trend that was observed in 2004, at least for the near future.

The International Fertiliser Association reports suggest that fertiliser consumption will increase from 145.5 million tonnes in 2004 to 149.0 million tonnes in 2005, i.e. an increase of 2.5%.Attractive fertiliser prices will be maintained as most producers are operating at rates close to capacity.

These positive indicators, however, contain some environmental challenges for the industry. These challenges range from a local and regional to a global scale.

Globally, the major environmental challenges as presented by the international environmental protocols and treaties, such as the Basel Convention for Trans-boundary Movement of Hazardous Chemicals; the Montreal Protocol for Substances that Deplete the Ozone Layer, and most recently, the Kyoto Protocol which came into force on 16 February 2005. This latest protocol will have a direct impact on industries in general and the fertiliser industry in particular, should our governments decide to ratify it. Locally and regionally, the petrochemical and fertiliser industries face the challenge of translating their commitments towards society into development and carefully planned and implemented programmes. These programmes should be innovative and targeted towards the welfare of society and protection of the environment. They should include specific programmes to enhance public awareness and preparedness to cope with emerging safety or environment related incidents.
Top management has to face the challenge of creating and maintaining a constructive and integrated culture of safety , health and environment throughout the workforce. One approach to this integrated culture is to use a total quality management system as the framework.
A key step to achieving this culture is employee participation in the planning and execution of the company's safety, health and environmental voluntary programmes .
These are just brief outlines of some of the environmental challenges that I would like to bring to the attention of the participants of the **afa** workshop, titled "Environmental Management Systems" to be hosted by Gulf Petrochemical Industries Company in Bahrain from 18 to 20 April 2005.
I extend my sincere wishes to all participants for a fruitful workshop to achieve our goals of exchanging experiences and views on the environmental challenges that the fertilizser industry is facing in the Arab world.

ARAB FERTILIZER

Issue Number 41 January - April 2005



Issue Report

Meetings during the conference

Conferences & Seminars

With Member Companies

Studies & Researches

Editor-in- Chief
Dr. Shafik Ashkar
Secretary General

Deputy Editor Chief
Eng.Mohamed F. El Sayed
Asst. Secretary General

Editorial Manager
Mrs. Mushira Moharam

Member of Editorial Board
Eng. Mohamed M.Ali

Mr.Yasser Khairy

A periodic issued every 4 Months by the General Secretariat of Arab Fertilizer Association

All correspondences to be addressed to:
Arab Fertilizer Association
P.O. Box 8109 Nasr City
11371 Cairo, Egypt
Tel: +202-4172347
Fax:+202 - 4173721
+202 - 4172350
E-mail:
info@afa.com.eg
www.afa.com.eg

Designer
Mr. Ahmed S. Adeen
colour separation & printed by
سكرين تكنولوجي
SCREEN TECHNOLOGY
Tel : 7603396 - 7617863

• "Arab Fertilizer" Journal is published by the General Secretariat of Arab Fertilizer Association (**afa**).
afa is a non-profit, non-gov. Arab International Organization established on 1975. **afa** is operating under the umbrella of Council of Arab Economic Unity/Arab League. **afa** comprises all companies are producing fertilizer in Arab world in 13 Arab countries.

• The articles and all material contained herein do not necessarily represent the view of afa unless the op posite clearly mentioned.
• The contributions of researchers, students, and experts in the field of fertilizer industry and trade are highly welcomed for free publication provided that they have not been published before.
• The General Secretariate is not obliged to return the articles which are not published.
• The Journal is providing the chance for publishing adverts for the companies involved in manufacturing and trade of fertilizer and other agricultural inputs. The arrangements for that should be discussed with the journal's management.



مملكة البحرين

المملكة العربية السعودية



القوة الدافعة وراء تنمية منطقة الخليج العربي

شركة الخليج لصناعة البتروكيماويات (ش.م.ب)
Gulf Petrochemical Industries Co. (BSC)

صندوق البريد ٢٦٧٣٠ سترة ، مملكة البحرين
هاتف : ١٧٧٣١٧٧٧ (+٩٧٣) فاكس : ١٧٧٣١٠٤٧ (+٩٧٣)
موقع الإنترنت : www.gpic.com ، البريد الإلكتروني : gpic@gpic.com








Issue no. (41) January - April 2005

11th International Annual Fertilizer Conference and Exhibition

1-3 February 2005

Workshop on : Environmental Management Systems

Kingdom of Bahrain 18-20 April 2005

18th International Annual Technical Conference

5-7 July 2005- Casablanca - Morocco